The Open Court

A MONTHLY MAGAZINE

Devoted to the Science of Religion, the Religion of Science, and the Extension of the Religious Parliament Idea

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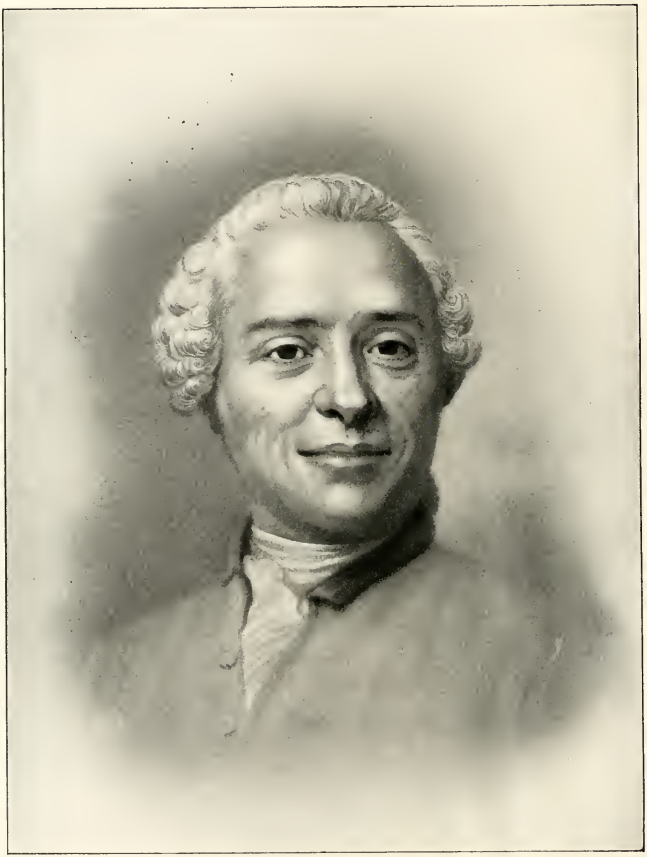

D'ALEMBERT.

(1717–1783.)

Frontispiece to The Open Court.

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A MONTHLY MAGAZINE

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VOL. XIII. (NO. 3.) MARCH, 1899. NO. 514

THE ENCYCLOPÆDISTS.

BY PROFESSOR L. LÉVY-BRUHL.

VOLTAIRE was, indeed, in his tendencies, both confessed and secret, in his likes and his dislikes, in his good qualities and his defects, "the representative man of French philosophy in the eighteenth century." We have therefore been obliged to give a somewhat detailed account of his doctrines, in which we find the average of the philosophical ideas professed by most of his contemporaries. Around him was arrayed an army of "philosophers," full of zeal but undisciplined, and sometimes unruly, whose best lieutenants were the most independent. In spite, however, of the differences in their natures, tempers, aptitudes and talents, the public feeling was not mistaken in grouping them all together under one name, from La Mettrie to Condorcet, from Condillac to Abbé Raynal. Sometimes unthinkingly, but in most cases quite consciously, they worked together on a common task. Most of them used every exertion in combating the Roman Catholic Church, and in a general way Christianity itself. They rejected its conception of the universe and of man, which appeared to them false and superstitious; they condemned the social order which the Catholic hierarchy contributed to maintain, and which they thought unjust and oppressive. Against this double tyranny all weapons were lawful. They would preserve nothing of this religion except its moral teaching, and even this they reduced to its essential elements, and held it to be human rather than specifically Christian.

In the constructive part of their work likewise, in spite of inevitable divergencies, they are quite akin to one another. Eager to lose no time in putting something in the place of that which they

thought they had destroyed, they set to work with great haste, and their want of experience appears so constantly as to be almost monotonous. There is a continual recurrence of the same paradoxes, accepted without discussion, and of the same dubious formulæ looked upon as axioms; their common stock consisted of a limited number of theories, often superficial and rudimentary, concern-

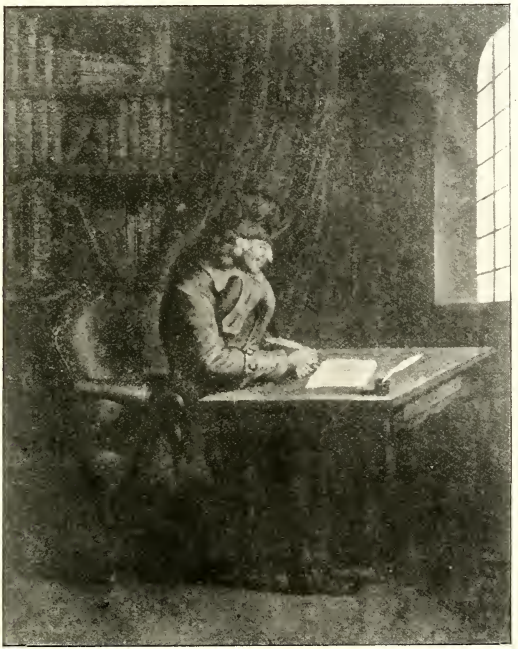
VOLTAIRE.
From a painting by Latour in 1736. Engraved by Balechou.

ing psychology, morals, politics and history, and of certain ideas and views which were often both profound and fruitful—building-stones, as it were, intended to fit into an edifice which they were as yet unable to build. For the *Encyclopædia* which they thought of as destined to be this edifice, represents a work-yard rather than a building. It has no unity, save in the spirit which animates it,

and in the perseverance of Diderot, who, in spite of obstacles and at the cost of untold trouble and sacrifice, finally brought it to completion.

* * *

La Mettrie, by the date of his works, somewhat precedes the main body of the philosophical army. He died in 1751, four years



VOLTAIRE IN HIS LIBRARY.

before Montesquieu, and before Diderot, D'Alembert and Rousseau had produced their masterpieces. Being a disciple of Boerhaave, who sought to explain the phenomena of life by the mechanism of physical and chemical phenomena, being also acquainted, though somewhat superficially, with the doctrines of Descartes and Locke, he composed, with elements derived from widely different sources, a system which he thought scientifically proven. It was a

kind of materialism, based on the idea which often reappeared in the course of the century, that the diversity in the orders of phenomena is due to the more or less complex organisation of matter. As this organisation is not the same in animals as in plants, nor (in certain points) in man as in animals, the functions which exist in plants, animals, and in man, must also be different: there is no need whatever of a special principle to explain certain of these functions rather than others. In opposition to spiritualistic dualism, which sets an abyss between the substance of the soul and that of the body, La Mettrie advanced, in his *Histoire Naturelle de l'Ame*, the ancient peripatetic and scholastic conception, which makes of the soul the form of the body. Like some Aristotelians of the Renaissance, he slipped his own materialism into this theory. He openly expounded it in the *Homme-Machine*. While he praised Descartes for saying that an animal is a machine, he reproached him for not having dared to say the same of man. Not that La Mettrie denied the existence of feeling or thought in animals or in man: such a paradox would seem to him absurd. He means that feeling, thought, consciousness, are all produced by the machine; the whole soul is explained by it, depends upon it, and, in consequence, disappears when it gets out of order, or is taken apart. As a physician, he quotes in support of his theory definite facts borrowed from mental physiology and pathology, and he declares that he will accept as his judges none but scientific men, acquainted with anatomy and with the philosophy of the body.

La Mettrie's reputation in the eighteenth century was very bad. In our days some have tried to rehabilitate him. No doubt a philosopher may have been a declared materialist and atheist, have written insipid defences of physical voluptuousness, and have died from eating too freely of patties, and yet may none the less have been a sincere man and have honestly sought after truth. No doubt also La Mettrie more than once served as a scapegoat for the philosophers who followed him and perhaps from time to time imitated him. The nearer they came to him the more fiercely they expressed their indignation against his abominable doctrines; for he, being dead, had nothing to fear either from the police or the Parliament. His good name may have suffered from this manœuver. Yet, if we examine his works closely, we shall conclude that he has not been seriously wronged. He does not sufficiently distinguish between what is proved and what is merely asserted; he has no absorbing concern for close reasoning and exact expression,

and his language is often rash in proportion to the looseness of his demonstrations. Let us grant that he introduced French materialism in the eighteenth century, but let us acknowledge at the same time that he too often presented it under an aggressive and unacceptable form.

FRONTISPIECE TO THE "ENCYCLOPÆDIA."

In 1751 appeared the *Discours Préliminaire* of the *Encyclopædia*. Diderot had acted wisely in asking D'Alembert to write it, and in contenting himself with drawing up the prospectus of his

great enterprise. He had already been at odds with the authorities, and had spent several months in Vincennes on account of his *Lettre sur les Aveugles*, in a word, he was looked upon as a suspicious character. D'Alembert, a great mathematician, renowned for his *Traité de Dynamique*, and a member of the Academy of Science, was just the man to present the *Encyclopœdia* to the public, and his name insured it against the ill-will of the enemies of philosophy.

This discourse was much admired, but we now find it rather difficult to understand this admiration. Though we do not refuse our homage to the dignity of its tone and the elevation of its thought, we are rather disappointed as we read it. This is owing to several causes. Ideas which were new in those days have now become familiar and commonplace. Several important points in D'Alembert's philosophy do not appear in the *Discours*, or are merely hinted at. Others, on the contrary, are developed which do not express his real thought; but he believed this concession to be indispensable in order to gain acceptance for the rest. "In the accursed country in which we write," he said to Voltaire, "such phrases as these are notarial style, and serve only as passports for the truths that we wish to establish. Moreover, nobody is deceived by them. . . . . Time will teach men to distinguish what we have thought from what we have said." D'Alembert never would deviate from this prudent course. Accordingly we see in the works offered to the public a D'Alembert whose attitude is irreproachable and whose irony is hidden under the forms of respect. But the letters to Voltaire and to Frederic the Great show us a quite different sort of man, eager for the fray, and as much incensed against parliaments, Jesuits, Jansenists, priests in general, and religion as the most determined "philosopher."

Being a fervent admirer of Bacon, D'Alembert borrowed from him his classification of sciences, with a few alterations which he himself explains. To tell the truth, the *Discours Préliminaire* contains not one but three classifications of human knowledge, from three different points of view. D'Alembert first examines "the origin and development of our ideas and sciences from the philosophical or metaphysical (i. e., psychological) point of view." Like a true disciple of Locke and Condillac, he divides all our knowledge into direct ideas and ideas derived from reflexion. Our direct knowledge is only that which has come to us through our senses: in other words, to our sensations alone do we owe our ideas. The classification here consists, therefore, in tracing our

complex ideas back to simple ones, that is, to those derived from sensation.

The "encyclopædic order of sciences," which comes next, is a logical order. It must not be confused with the order which the human mind has actually followed in the production of the sciences. In all likelihood man, spurred on by his bodily wants, must first have set out to meet the most urgent need, and then, as he met with difficulties, have tried another way, then have retraced his steps, etc. If so, the sciences which we look upon as containing the principles of all others, and which must come first in the encyclopædic order, were not the first to be invented. Moreover, in the historical order of the progress of the human mind, the various sciences can be viewed only in succession, one after another, whereas the encyclopædic order consists in embracing all sciences at one glance, as if from a height one should perceive at one's feet a maze of interweaving paths. Or, again, this encyclopædic order may be compared to a map of the world, on which we see at one glance the whole surface of the globe. And just as, in preparing such a map, we may choose among various systems of projection, so we may also conceive the encyclopædic order in several different ways. None of these ways is necessarily to be adopted to the exclusion of all others, and if D'Alembert chose that of Bacon it was because, without being more defective than the others, it has the advantage of suggesting with tolerable accuracy the genealogy of human knowledge.

Lastly, a third order considered by D'Alembert is that according to which our sciences have been historically developed since the Renaissance. It differs from the order which the human mind would follow if left to its own lights. In this order, then, the sciences of erudition came first, owing to the prestige of antiquity, which after long ages of barbarism and ignorance was rising again fair and luminous before the delighted eyes of men. Thus D'Alembert had a clear perception of the psychological genesis of our knowledge, of the logical order of the sciences, and of their historical succession. Could not these three orders have been combined to form a higher one? Comte later on attempted such a combination; but D'Alembert contented himself with a rapid criticism of each of the sciences, and a summary appreciation of the great minds who had created or developed them.

And, first of all, in the already formidable mass of our knowledge, how few branches deserve the name of sciences! History, according to D'Alembert, is in no wise entitled to it. It is only of

practical interest. Why should we not, for instance, cull from it the best catechism of morals that could be given to children, by collecting into one book the really memorable deeds and words? It would be particularly useful to philosophers and to the "unfortunate class" of princes to teach them to know the men with whom they live from what they learn of men who lived in former times. Metaphysics should be strictly limited to what is treated of in Locke's *Essay*. Nearly all the other questions it proposes to solve are either beyond solution or idle. It is the food of rash or ill-balanced minds—in one word, a vain and contentious science. D'Alembert is not allured, like Voltaire, by the hypothesis which attributes to matter, under certain conditions, the power to think. To him it appears uncalled for and dangerous. If it inclines towards materialism, we fall back into a metaphysical doctrine no more clearly proven than any other. Is it not better for us to confess that we do not know at all what substance, soul, and matter, are? Likewise, as regards the existence and nature of God, scepticism is the only reasonable attitude of mind. And we should be compelled to say the same of the existence of the outer world and of man's liberty, did not instinct here supplement the deficiency of reason; whether the outer world exists or not, we have such a strong inclination to believe in it that everything appears to us as if it existed; and, in the same way, everything appears to us as if we were free.

Even in the natural sciences, how limited did man's knowledge appear. Physiology had hardly yet begun to exist. D'Alembert speaks of medicine as a man who has measured all its risks; in his eyes it is a purely empirical science. The physician who builds systems and clings to a theory is most dangerous; that one is least to be feared who has seen many patients and has learned to make an accurate diagnosis and not to dose at random. Physics is more advanced and its conquests are lasting. Here we stand on firmer ground, but progress is slow and the human mind has to guard against itself. D'Alembert insists upon the prudent advice already given by Bacon: we should distrust even the most probable explanations, so long as they have not been tested by experience, and, if possible, by calculation.

Sciences in the highest sense of the word, D'Alembert called those he had been studying all his lifetime, and to which he owed the best of his glory—the mathematical sciences, which he divides into pure mathematics, mixed mathematics, and physico-mathematical sciences. Certitude, properly so called, which is

founded upon principles necessarily true and self-evident, does not belong equally or in the same way to all these branches of mathematics. Those which rest on physical principles, that is, on experimental truths or on physical hypotheses, have, so to speak, only an experimental or hypothetical certitude.

One might infer from this that D'Alembert looks upon pure mathematics, in opposition to physico-mathematical sciences, as being really *a priori* and independent of experience : but how could he have harmonised such a conception with the principle borrowed from Locke, according to which all our knowledge comes, either directly or indirectly, from experience? D'Alembert did not fall into this contradiction. He avoided it by means of a theory of mathematics which was consistent with his sensationalistic principles, and much clearer than the ones to which Hume and Condillac resorted. Mathematics, in his opinion, belongs to natural philosophy. "The science of dimensions in general is the remotest term to which the contemplation of the properties of matter may lead us." Experience shows us individual beings and particular phenomena, the sun, the moon, rain, and wind. By means of successive abstractions and of more and more comprehensive generalisations, we separate the qualities common to all these phenomena and beings, till at last we reach the fundamental properties of all bodies : impenetrability, extension, and size. We cannot further subdivide our perceptions, and we find at this point a subject for sciences which, in virtue of the simplicity of this subject, may be made deductive. Thus, in geometry, we strip matter of nearly all its material qualities, and consider, so to speak, only its ghost. "Thus," says D'Alembert in a language that foreshadows Stuart Mill, "it is merely by a process of abstraction that the geometrician considers lines as having no breadth, and surfaces as having no thickness. The truths he demonstrates about the properties of all are *purely hypothetical* truths. But they are none the less useful, considering the consequences that result from them." This empirical theory of mathematics, which stands in such direct opposition to that of Plato and Descartes, has made its appearance again in our century, and is anything but abandoned at the present day. Even such men as Helmholtz, though reared under the influence of Kant, have deemed it indispensable to accept the statement that geometry contains elements derived from experience.

As the certainty of mathematics rests on the evidence of ideas so closely related that the mind perceives the connexion between

them at a glance, so the certainty of morals rests on the "heart's evidence" which rules us as imperiously. D'Alembert's theory of morals is almost entirely identical with Voltaire's. The only original feature about it is the personal accent that D'Alembert gives it, especially in his letters. To him sympathy for the hapless, indignation against the "monstrous inequality of fortunes" are not mere commonplaces, hackneyed expressions of a trite sentimentality, an homage paid to the reigning fashion. They are the words of a man who has seen the poor, who has lived among them, who has witnessed their sufferings, and to whom misery is a living reality, not a theme for literary amplification. D'Alembert goes so far as to ask himself whether, when driven to despair, and reduced without fault of his own to the verge of starvation, a man is morally bound to respect the surplus that another has beyond his needs.

In dignity of life and independence of character, as well as in genius, D'Alembert was among the glories of the party of philosophers. He more than once dared to contradict Voltaire. His friendship with Frederick never cost any sacrifice of his pride, and he fell out with Catherine of Russia because she rather haughtily rejected his intercession on behalf of some Frenchmen who had been taken prisoners in Poland. His two great passions were for mathematics and against "priests"; and it is characteristic of the times that the latter should have contributed no less than the former to constitute him a "philosopher."

* * *

Diderot was as adventurous, expansive and lyrical as D'Alembert was prudent, reserved and methodical. But his disorder is rich in ideas. Diderot was one of the most extraordinary mind-stirring writers that the world has ever seen. The brightness and charm of his conversation seem to have been prodigious. He was called "the philosopher." It must indeed be admitted that if we always meant by this word a man whose methodical and persevering meditation does not rest satisfied till it has found out a first principle from which it can deduce the whole world of reality, Diderot would occupy but a low place among philosophers. Not that he was incapable of reducing his ideas to a system; but the starting-point of his attempts at such a synthesis was variable, depending on a chance encounter, conversation or reading. Before his reason went deep into things, his imagination had to be stirred. But on the other hand he was without a rival in rising from an apparently insignificant point to general ruling principles, and in dis-

covering from that vantage ground many roads, some of which led him to new points of view; his curiosity was indefatigable, his reflexion sometimes profound and always suggestive.

Unfortunately, though all this be sufficient to exercise a considerable influence upon contemporaries, it may easily fail to produce many durable works. All Diderot's writings wear an air of improvisation, due to his ready and sudden enthusiasm, and to the facility with which he could put together *extempore* a vast structure of ideas. It can therefore hardly be said that the *Encyclopædia*, by compelling him to scatter his labors for twenty years upon an infinite and varied task, prevented him from bringing forth the great masterpiece which his intelligence, if concentrated, might have produced. It was rather because Diderot felt no strong desire to concentrate himself thus that he poured into the *Encyclopædia* and into a multitude of pamphlets his wonderful gifts for quick assimilation and uninterrupted, but fragmentary, production.

Diderot was at first a deist, after the manner of Voltaire, and, like him, under the influence of the English, particularly of Locke and Shaftesbury. He then thought, as did Voltaire, that modern physics had dealt materialism and scepticism a fatal blow. "The discovery of germs, in itself, has dispelled one of the strongest objections of atheism." But this style of philosophy soon ceased to satisfy him, and he gradually inclined to what he himself called the most attractive form of materialism: that which attributes to organic molecules desires, aversions, feeling, and thought,—to end at last in a sort of pantheistic naturalism.

Several paths led Diderot to this goal. First of all, he perceived that the irreducible dualism of soul and body was generally upheld for religious quite as much as for philosophical reasons; and this alone was sufficient to drive him away from it. Then, in his *Lettres sur les Aveugles* and *Sur les Sourds Muets*, he insists upon the relative character of our metaphysical conceptions. For a blind man, what becomes of the proof of the existence of God based upon final causes? Diderot attempted, as Condillac did afterwards, to work out the psychological development of sensationalism. All our knowledge comes from the senses; how does it come from them? What do we owe to each of our senses? Can we analyse their data, and afterward from them reconstruct the whole? Cheselden's experiment and Molyneux's problem were known; Diderot wished to go beyond these, to carry this kind of "metaphysical anatomy" still farther, and to take in pieces, so to speak, the senses of man. He imagined the "conventional mute,"

and the conclusions that he drew from his psychological analysis alarmed many a Christian.

But Diderot's pantheistic tendencies seem to have been chiefly determined by the discoveries made about this time in natural science. These he followed with passionate interest, and his imagination soon swept him on to bold hypotheses concerning life and thought. "We are," he says, "on the verge of a great revolution in science." In mathematics such men as Bernoulli, Euler, D'Alembert, Lagrange, have "set the pillars of Hercules." Nobody will go further. The natural sciences, on the other hand, have only just been born; and already the little that is known about them entirely changes our view of the world. For instance, to a mathematician studying abstract mechanics, a body may undoubtedly, by convention, be looked upon as inert; but if we examine the facts, the inertia of bodies is a "fearful error," contrary to all sound principles of physics and chemistry. In itself, whether we consider its particles or its mass, a body is full of activity and strength. The distinction between inorganic and living matter is therefore superficial, and strictly speaking even false; for do we not plainly see that the same matter is alternately living and not living, according as it is assimilated or eliminated by a plant or an animal? Nature makes flesh with marble, and marble with flesh. Therefore, is it not very rash to assert that sensibility is incompatible with matter, since we do not know the essence of anything whatever, either of matter or of sensibility? But, it is said, sensibility is a simple quality, one and indivisible, and incompatible with a divisible subject. "Metaphysico-theological gibberish," answers Diderot. Experience shows that life is everywhere; who knows but feeling may be everywhere too?

One of the most serious objections raised against such a doctrine rests on the stability and permanence of living species, which seem to set an insurmountable barrier between man and other animals, between any two living species, and, above all, between the realm of life and that of inorganic matter. Diderot was aware of this difficulty. He answered it by asserting the natural evolution of all the species that ever appeared on the globe. It does not follow because of the present state of the earth and consequently of the living species and of the inanimate bodies which are to be found thereon, that this state has always been similar in the past, or is to remain similar in the future. What we mistake for the history of nature is only the history of an instant of time. Just as in the animal or vegetable kingdom an individual begins to exist,

grows, matures, decays, and disappears, may it not be the same with an entire species? Who knows what races of animals have preceded us? And who knows what races of animals will succeed ours? Let us then waive the apparently unanswerable question of the origin of life. If you are puzzled by the question of the egg and the owl, it is because you suppose animals to have been originally what they are now. What folly! We do not know what they have been any more than we know what they are to be. To Diderot's eager, universal, and insatiable scientific curiosity was joined a conception of science itself which might already be termed "positivism." We know little; let us be contented with what we can know. Our means of gaining knowledge reach as far as our real needs do, and where these means are denied us, knowledge is probably not very necessary for us. I might as well feel seriously grieved at not having four eyes, four feet, and two wings. We must accept the fact that we are as we are, and not aspire to a science that would be beyond our comprehension. If men were wise, they would at last give their attention to investigations that would promise to promote their comfort, and no longer deign to answer questions which are idle because they are unanswerable. For a similar reason, they would cease to aim at a greater degree of precision in science than practical considerations demand. In a word, "utility is the measure of everything." Utility will a few centuries hence set limits to experimental physics, as it is on the point of doing with regard to geometry. "I will allow centuries to this study (physics), because its sphere of utility is infinitely wider than that of any other abstract science, and because it is unquestionably the basis of our real knowledge."

The same fervent love of humanity which animates and limits Diderot's idea of science, is also to be found in his polemics against the Christian religion. Of course his language varied according to circumstances. When he did not intend to publish he gave free rein to his bold tongue. In this way he wrote the *Supplément au Voyage de Bon Gainville, Le Neveu de Rameau* (his masterpiece), the *Entretien avec la Maréchale de* * * * In private letters, he sometimes vents his rage in invectives against that religion, "the most absurd and atrocious in its dogmas, the most unintelligible, metaphysical and intricate, and consequently the most liable to divisions, schisms and heresies, the most fatal to public peace and to sovereigns, the most insipid, the most gloomy, the most Gothic, the most puerile, the most unsociable in its morals, the most intolerant of all." In the *Encyclopædia* he makes a show of respect.

Yet significant sallies will sometimes escape him: "The Hebrews knew what Christians term the true God; as if there were any false one!"

His ethics, extremely lax as regards the union of the sexes, is unfortunately influenced by the lachrymose sentimentality of the times. The moment that virtue is mentioned Diderot gets excited. Tears come into his eyes, his heart throbs, he gasps, he must embrace his friends, and they must share his transports. This overflow of feeling seriously impairs the precision of his ideas. Diderot taught his daughter that every virtue has two rewards: the pleasure of doing good, and that of winning the good will of others; and every vice has two punishments: one in our inmost hearts, the other in the feeling of aversion which we never fail to excite in others. He wished her to have no prejudices, but to have morals and principles "common to all centuries and nations." Here we recognise ideas dear to Voltaire. Like him also, Diderot considered that justice was rooted in the very nature of man, and not, in spite of Locke, variable according to times and places. "The maxims engraved, so to speak, on the tables of mankind are as ancient as man and preceded his laws for which they ought to furnish the guiding principles." But Diderot, in accord here with Rousseau, added that nature has not created us wicked, and that it is bad education, bad examples, and bad legislation that deprave us.

The originality of Diderot must not therefore be sought in his ethics; it lies elsewhere, in the mass of ideas set in motion by this indefatigable mind, a real precursor on many points of the present century, which has justly shown a predilection for him. He anticipates the progress of the natural sciences and the change they were to bring to the general conception of the universe, and consequently to the whole life of mankind. He was among the first to recognise the social importance of the mechanic arts, by giving them the place they were entitled to in the *Encyclopædia*. He raised in public esteem the men who practise these arts, and thus did for the workman what the physiocrats were at the same time doing for the husbandman. At the same time his *Salons* were making the beginnings of art criticism, and teaching his contemporaries how to look at pictures and statues. On dramatic art and the art of the comedian he brought forward many ingenious and profound ideas,—and finally, he revealed in many articles of the *Encyclopædia*, a searching knowledge of the history of philosophy, then neglected and almost unknown in France.

Goethe, who greatly admired him, said that his was "the most Germanic of French heads." Indeed very few French philosophers have had as keen a sense of the great pulse of universal life and of the creative power of nature, or as sound and penetrating an insight into manifold reality. He occupies a special place, which we must almost despair of defining in a satisfactory manner. We can neither set forth his philosophical thoughts without exhibiting their shortcomings, nor yet point out these drawbacks without running the risk of being unjust to this vast, powerful, and unrestrained genius.

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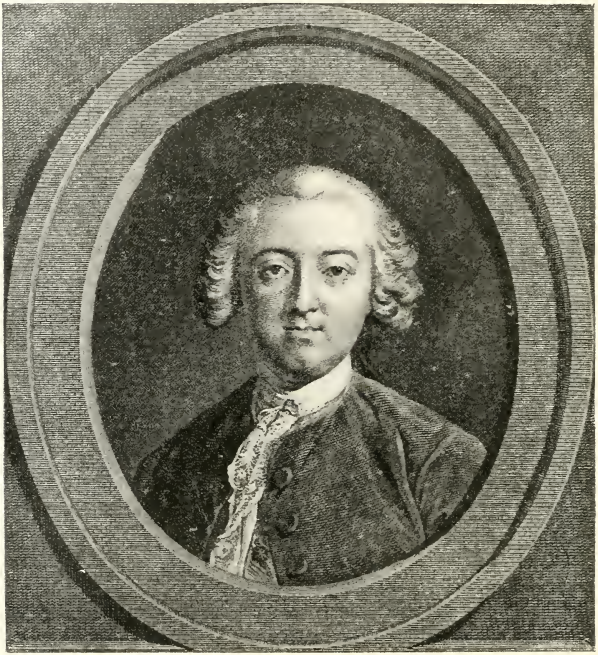
Compared with such men as D'Alembert and Diderot, Helvetius is not the most original of the "philosophers," yet his book *De l'Esprit* created a wonderful sensation, both in France and abroad. This success was partly due, at least in France, to the personality of the author, who was a great financier and a kind, generous, hospitable and friendly man, who approached very near to the most esteemed type of man of the eighteenth century: the man of feeling who is virtuous and made happy by his virtue. The success was undoubtedly also due in part to a most captivating style; easy to read, composed with a manifest concern for the favor of women, and weaving in short stories and anecdotes, *De l'Esprit* did not repel even the most indolent reader. Lastly, its success was due to the apparent boldness of the paradoxes which however were nothing but the fashionable opinions carried to their logical conclusions. The strange thing was that the success of Helvetius lasted for a long time, and at the end of the century it was still thought worth while to refute him.

Apart from the current doctrine of sensationalism for which Helvetius was evidently indebted to Condillac or to some other contemporary writer, his two main paradoxes are the following: (1) That personal interest or the pursuit of happiness is the only principle, whether confessed or not, of human actions; (2) that education can do everything. The first paradox was not new. Many a moralist, not to mention La Rochefoucauld, had already shown the infinite cunning of self-love, and concluded that men, even in the actions that seem most disinterested actions, are always more or less hypocritical. But Helvetius gives his argument a quite different turn. There is no pessimism or bitterness about him; he is full of kindness. "It was not the love of paradoxes," he writes, "that led me to my conclusion, but solely a desire for men's happiness." And he flatters himself that his doctrine may

contribute to it. Indeed, if it be once granted that man never seeks anything but his own interest, let law-givers so contrive that the general interest shall always agree with private interests, and all men will be good and happy. Everything, therefore, depends upon the laws. Wherever private interest is identified with public interest, virtue in each individual becomes the necessary effect of



HELVETIUS. (1715–1771.)

self-love and personal interest. "All the vices of a nation almost invariably originate in some defects of its legislation."

Diderot justly observed that this omnipotence attributed to the laws repeats in an exaggerated form the conception of Montesquieu who saw an inseparable connexion between morals and the system of government, and thus attributed to political laws an influence not always confirmed by experience. Furthermore, with

Montesquieu, the forms of government depend, in their turn, upon climate and a multitude of conditions, whereas Helvetius expressly opposes Montesquieu's theory of climates. He maintains that the action of the law-giver is supreme everywhere, and that no obstacles are insuperable if this action be properly directed. If it be objected that the pursuit of personal interest is rather a narrow basis to sustain the whole edifice of human society, he answers that, as all things come from experience, the feeling which was afterwards to be called altruism is no exception to the rule. The *moral instinct*, the moral sense, the natural capacity for beneficence and benevolence, appealed to by the English, are not to be admitted. "The vaunted system of the morally beautiful is really nothing but the system of innate ideas, demolished by Locke, and brought forward again under a somewhat different form." No individual is born good, no individual is born wicked. Both goodness and wickedness are accidents, being the result of good or bad laws.

Thence logically follows the second paradox, according to which education alone creates differences among men. Since nothing is innate or hereditary, every human soul is at first a blank page, and all souls are identical at birth. Inequality among minds is therefore due to the various circumstances in which men have been placed, to the passions aroused by these circumstances, to the power of attention that these passions produce, in short, to a thousand causes, but above all to education. Pedagogy is to individuals what political science is to nations. Error is an evil which, like vice, may be avoided. To insure the happiness of mankind, it will only be necessary to bring the art of education to perfection. Education will make enlightened men and even "men of genius as numerous as they have hitherto been scarce." The enormity of the paradox did not prevent its making an impression upon the public. It had at least the merit of calling attention to the then quite new science of pedagogy, and of preparing the public to welcome Rousseau's *Emile*. Besides, the influence of Rousseau was already quite perceptible in Helvetius. "Everything is acquired" is indeed, according to Locke's conception, the negation of innate ideas; but it is also, according to Rousseau's conception, the assertion that the errors, sufferings and crimes of men are their own work, and that it is for the educator and the law-giver to cure them.

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Le Système de la Nature, by Baron D'Holbach, which appeared in 1770, is a less superficial and more vigorous work than the writ-

ings of Helvetius. Being a confessed materialist, D'Holbach defines man as a material being organised so as to feel, think and be modified in certain ways peculiar to himself, that is, to the particular combinations of substances of which he is com posed. The intellectual faculties may be reduced to changes produced by motion in the brain. The word "spirit" has no meaning. The savages admit the existence of "spirits" to explain effects for which they cannot account, and which seem to them marvellous. Such an idea of spirit is preserved only by ignorance and sloth. It is more useful to divines, but most harmful to the progress of society, which keeps pace with science. The immortality of the soul is a religious dogma which never was of any use except to priests, and is not even a check upon the passions if they are at all violent, as experience sufficiently proves. And as necessary laws govern all natural phenomena, intellectual and moral phenomena included, freedom is quite out of the question.

So far this materialism had nothing remarkable about it unless it be its perfect frankness. But on the question of the existence of God, D'Holbach subjected deism and theism to a searching criticism, obviously directed against Voltaire's natural religion, and worthy of some notice. People make a wrong use of physics in behalf of metaphysics, says D'Holbach, and the study of nature should have nothing to do with moral or theological interests lest a new chance of errors be added to all those we already have to guard against. But even if we overlook this point, the argument based on final causes does not prove what it is thought to prove. First of all, the idea of order is relative to human canons of propriety, and if we leave these out of account, disorder is in itself no less natural and normal than order, nor illness than health; all phenomena being produced by virtue of the same laws. Then "to be surprised that the heart, the brain, the arteries, etc., of an animal should work as they do, or that a tree should bear fruit, is to be surprised that an animal or a tree should exist." What we call finality is but the total sum of the conditions required for the existence of every being. When these conditions are found combined, the living being subsists; if they cease to be so, it disappears; and this very simple proposition, which is true as regards individuals, is no less so as regards species and even suns. There is nothing in this which compels us to have recourse to a Providence, the author and maintainer of the world's order.

The divine personality, upheld by theists, is untenable. Newton, the vast genius who divined Nature and its laws, is only a

child when he leaves the domain of physics; and his theology shows that he had remained in bondage to the prejudices of his childhood. What is that God, lord and sovereign of all things, who rules the universe, but an anthropomorphic conception, which was only a reminiscence of Newton's Christian education? And what is Voltaire's retributive and vengeful God, but a reminiscence of precisely the same kind?

The God of deists is useless, that of theists is full of contradictions. If we nevertheless accept him, we have no right to reject anything in the name of reason, and we are inconsistent if we refuse to go further and to submit to religious dogma. Theism is liable to as many heresies and schisms as religion, and is, from a logical point of view, even more untenable. So there will always be but a step "from theism to superstition." The least derangement in the machine, a slight ailment, some unforeseen affliction, are sufficient to disturb the humors, and nothing more is required. Natural religion is only a variety of the other kind of religion, and speedily comes back to the original type. It is fear, and ignorance of causes, that first suggested to man the idea of his gods. He made them rude and fierce, then civilised, like himself; and nothing but science can cause this instinctive theology to disappear.

The appearance of this book, in which the author (though under an assumed name) so boldly carried his principles to their utmost logical conclusions, created great commotion among the "philosophers." Though they did not all feel indignant, they nearly all thought it advisable to simulate indignation. Voltaire strongly protested, and this time he was sincere. Diderot, who was suspected of having had a hand in the work, kept very quiet. D'Alembert confessed that the *Système de la Nature* was a "terrible book." Frederick II., very much shocked, wrote a refutation of it. He clearly perceived the revolutionary ideas lurking in it, and became out of humor with the Encyclopædists, who were friends and intimates of Baron D'Holbach. As for Rousseau, he had already broken with them long before, and had not waited for this book before opening the battle against materialism and atheism, which he "held in abhorrence."

Nevertheless, Rousseau had contributed to the *Encyclopædia*, in the first years of its publication; Condillac, Turgot, Quesnay had likewise written articles for it, and, unfortunately, other men besides, who were unworthy of such neighbors. In spite of Diderot's efforts there are strange incongruities in the *Encyclopædia*, and we easily understand Voltaire's frequent indignation at the

vapid or high-flown nonsense which Diderot was compelled to insert. D'Alembert, who ceased to be associated with him in publishing the *Encyclopædia* in 1757, though he went on contributing to it, often pleads extenuating circumstances in his Letters to Voltaire. It was he who, in his *Discours Préliminaire*, gave perhaps the best characterisation of this undertaking in which the philosophical spirit of the age found its expression: "The present century," he said, "which thinks itself destined to alter laws of all kinds and to secure justice . . . "

The philosophers proceeded to "alter the laws" with an eagerness, a confidence in their own reason and in their paradoxes, and a power of self-delusion that were extraordinary. The government they controlled existed only in imagination, and there was no check of experience to bring them to a halt in time. The work which they did too hastily now seems to us rather poor and out of proportion to their claims; but it does not follow that this work was not necessary, or that they were wrong in undertaking it. On the contrary, their impulse on the whole was generous, and for this reason, in spite of all their failings, it proved irresistible and carried away the very men who ought to have been its natural adversaries. Hatred of falsehood, superstition, oppression, confidence in the progress of reason and science, belief in the power of education and law to overcome ignorance, error and misery, which are the sources of all our misfortunes, and lastly warm sympathy for all that is human were shed abroad from this focus to the ends of the civilised world. Events followed which left an indelible mark upon history. And though a clear-sighted reaction showed the weaknesses, inconsistencies and lapses of this philosophy, it may well be believed that its virtue is not yet quite exhausted, and that by laying its foundations deeper it may yet rise again with new strength.