

## BLAISE PASCAL.

(1623-1662.)

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TWO periods are to be distinguished in Pascal's life: the first, in which he busied himself with mathematical and physical sciences, and the second, in which, being thoroughly convinced of the vanity of these sciences, he confined himself to the science of morals.

As a natural philosopher Pascal was one of the most pronounced in his advocacy of the rights of experience and reason as against the method of authority. The fragment of the *Traité du Vide* expresses, in a wonderfully eloquent style, ideas which Bacon, Descartes and many others had previously advocated. Pascal's way of demonstrating them is decisive; by his very analysis of the notions of science and of antiquity he determines in what case and in what measure respect is due to the opinions of the ancients.

Here Pascal even brings to light a point already touched upon by Bacon, but ignored by Descartes. In laying down the first rule of his method "to hold nothing as true unless one has evidence of its being so," Descartes based his reasons entirely upon the abstract idea of science and upon the model of mathematics. For him these were sufficient motives to regard everything that preceded him as null and void, and absolutely to *ignore* tradition. He proposed to build up a philosophical system as if none had ever existed before him. Pascal, on the contrary, analyses the confused idea of tradition, and seeks to derive thence the idea of progress. He represents mankind in its entirety as a single man living forever and learning continually. Had not Descartes been so wholly taken up with his desire of utterly abolishing scholastic philosophy, he might also have noticed, were it but in geometry and astronomy, the onward march of scientific knowledge, which

is the most luminous illustration of "progress" that can be given. Pascal's idea is a remarkable one, inasmuch as it emphasises the continuity of progress. We shall find it reviving in the eighteenth century, under various forms, until the natural sciences, and particularly biology, substituted for the notion of uninterrupted progress the more complex conceptions of evolution and adaptation.

In Pascal's views of scientific method, the influence of Descartes is almost everywhere perceptible. Like Descartes, he has but little esteem for formal logic; real logic is to be found in mathematics. A method of avoiding error is sought by every one. Logicians profess to know the way to it, but geometricians alone reach it, and outside their science and whatever imitates it, real demonstrations do not exist. Geometry therefore is the only real science, and this privilege it owes to the "order" which it follows. (Descartes himself had said, "The method consists wholly in the order to be observed," etc. Lastly, even as mathematics furnished Descartes with the idea of his philosophical method, so geometry suggested to Pascal that of a "still loftier and flawless" one. But, unlike Descartes, who thought he had found the demonstration of the true philosophy, Pascal believes that a perfect method is beyond the reach of man. Geometry has to take for granted the definitions from which it proceeds and the axioms on which it rests, whereas a perfect procedure would define and demonstrate everything. Geometricians, however, are quite justified in not demonstrating that two quantities which are equal to a third are equal to each other, and in not giving a definition of space, time, and number, for such explanations as they might give of these notions would create obscurity rather than enlightenment. It is sufficient if their definitions and axioms be so perfectly clear and evident as absolutely to preclude denial. But still it is an imperfection in their science that these things have to be taken for granted.

Thus geometry, although the least imperfect of human sciences, can demonstrate nothing except by admitting undemonstrable principles, and define nothing except by using undefinable terms. The question, whence these principles and notions are derived, is a serious subject of discussion among philosophers. Some ascribe their origin to experience, others to the independent activity of the mind. According to Pascal, these principles spring from the "heart;" that is, we believe in them instinctively, and such a belief is as firm as any which reasoning can engender in us. "The heart" tells us that there are three dimensions in space, and that the succession of numbers is infinite. Principles we feel, proposi-

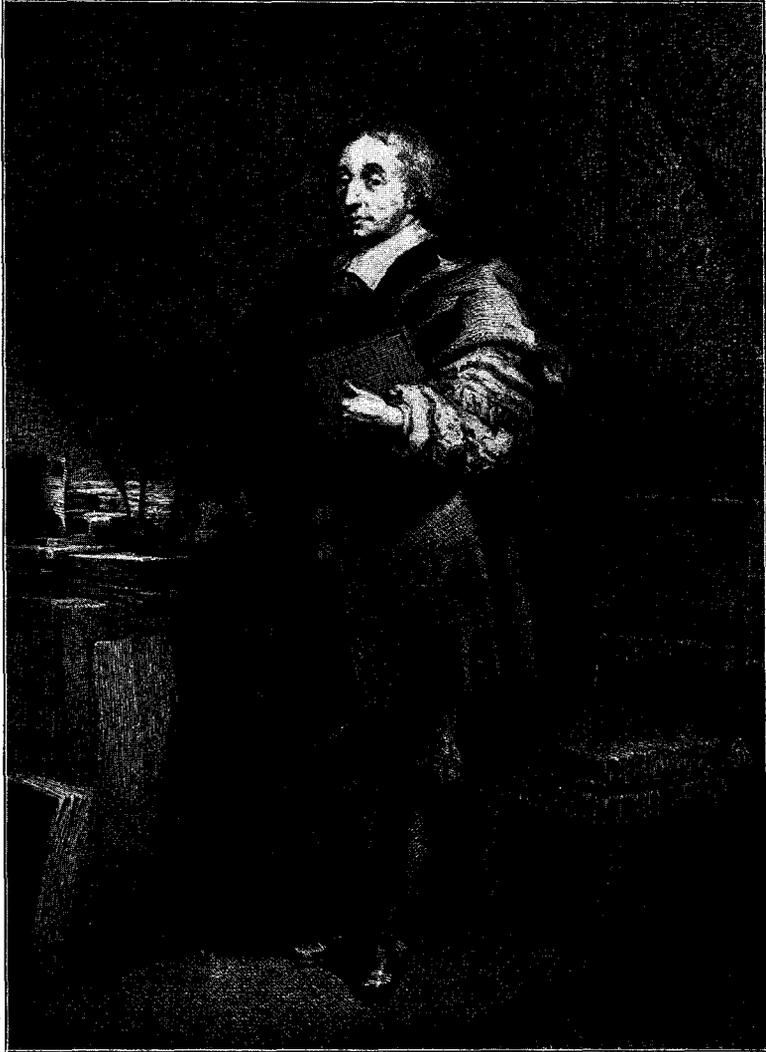
tions we infer, and both with certainty, although by different means. And there would be as much absurdity in reason's asking the heart for proofs of its first principles before adhering to them as in the heart's asking reason to feel all the propositions it demonstrates before accepting them.

This is therefore no check upon geometry. It merely supposes us to know what is meant by the words *motion, number, space*. Without stopping for useless definitions, it penetrates into the very nature, and discovers the wonderful properties, of these three things, "which," says Pascal, speaking as a true Cartesian, "comprise the whole universe." But if we try to push our reflexion higher, and to apply it to these principles themselves, we are stopped at the very first step and obliged to confess our ignorance. "Our soul is cast into our body, where it finds number, time, dimension; it calls these nature or necessity, and can believe nothing else." Seldom was Pascal more profound than in these few words. He touches here upon the idea of the relativity of knowledge. He intimates that the necessity of natural laws may possibly be only the necessity of the laws of our own thought, and that these fundamental laws, both of thought and of nature, may also, in some way unknown to us, proceed from the human organisation. Therefore, "what goes beyond geometry is beyond our reach."

The critique of the faculties of the human understanding, which was not in Pascal's plan, is partly replaced in his *Pensées* by the consideration of the Infinite, the idea of which plays an important part in his philosophy. According to him we know that the Infinite exists, but we are ignorant of its nature. We are acquainted with the existence of infinite number and of infinite space, but cannot form conceptions of them. We know, at least, that the finite is incommensurable with the infinite. Therefore man, being finite, is unproportioned to the idea of the infinite; is lost and swallowed up in it. In this infinite sphere, the centre of which is everywhere and the circumference nowhere—where do we stand? The question is of course unanswerable. "For what is man in nature? Nothing as compared with the infinite, everything as compared with nothingness—a mean between nullity and all. Utterly powerless to embrace the extremes, therefore the end and the principle of things are forever wrapped in impenetrable mystery for him. He is incapable, in fine, of perceiving either the nothingness out of which he is drawn, or the infinite in which he is engulfed."

From this it follows that nature is as incomprehensible as God Himself, who created it. It is therefore useless to reduce the sci-

ence of nature to that of geometry, as Descartes does (Pascal does not question here the rightfulness of the procedure); it is useless



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to establish a geometrical "order," as the most perfect that man can attain to. It must still be admitted that between infinite space and the space which we conceive there is a boundless chasm, and

that our most intelligible science is based on principles which we do not understand. And if, instead of reflecting upon the object of science, we reflect upon the mind by which science is made, we are brought to the same confession; for we then perceive that our understanding, in the order of intelligible beings, holds the same place as our body in the order of extended objects.

The parallelism (a genuinely Cartesian one) involves conclu-



From an Engraving by St. Aubin of the bust of Pajou.

sions which Pascal draws at once. Even as our body is but an imperceptible speck in comparison with infinite space, so our understanding, in spite of all its exertions, is infinitely remote from the perfect comprehension of things. Whether contemplating them from above or from below, it is still equally far from the end. We are sequestered in a hidden province of the universe, from which it were sheer madness to think of escaping. We are likewise confined to a certain degree of intelligence, higher than which

our faculties forbid us to rise. In the range of thought, as well as of space, we are a mean between nothing and everything, infinitely remote both from lifeless, unthinking matter and from that Absolute Thought which sees Being while creating it. Our knowledge is bound to certain conditions. Man's pretension to absolute knowledge can spring only from an absurd—one might almost say, infinite—presumptuousness.



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From an Engraving by Honriot.

If, therefore, Pascal, in speaking of science, is now sympathetic and admiring, now scornful and derisive, the diversity of his language is easily explained, and we need not suppose that Pascal, after admitting the validity of human reason in the earlier part of his life, despaired of it in the latter, and abandoned himself to scepticism. It is sufficient to observe that Pascal in some passages views science from the standpoint of the finite and in others from

that of the infinite. In the first passages, when contemplating science from a purely human point of view, he finds it to be logically unassailable (at least as regards geometry) and he extends this praise to "what imitates it," probably alluding to philosophies of the stripe of Descartes's, which vies with mathematics in rigor. But when contemplating science and philosophy from the point of view of the infinite, their vanity, powerlessness and uselessness appear obvious to him, for there is no proportion between the human mind, which is finite, and the infinite object with which science is concerned. Thus Pascal may say, without recourse to moral or religious argument: "Philosophy (that is the science of nature) is not worth an hour's pains. . . . To write against those who pursue the sciences . . . to scoff at philosophy—that is to be the true philosopher."

For the same reasons, and without being self-contradictory, Pascal shows himself alternately favorable and hostile to Cartesianism; yet this is no reason for inferring that he has changed his opinion. If there must be a science of physics, he evidently prefers that of Descartes to that of Aristotle. What he thinks ridiculous is the vain hope of attaining to a complete and definitive explanation of nature. Therefore, in speaking as a geometrician or natural philosopher of the Cartesian doctrine, he does not hesitate to praise it; he even admires the *cogito* and the consequences inferred from it by Descartes. But when comparing such a philosophy to the infiniteness of nature, which is the object of it, he finds it no less presumptuous and bold than the others. The closer he considers the infinite, the less interested he becomes in geometry and natural sciences; not that they seem to him less true than they did before, but that he sees the emptiness of them more clearly. Another science attracts him—the science of man, in which all his dearest concerns are at stake.

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The science of man, or of morals, as we know, was not to be found among philosophers. Pascal, however, was far from rejecting as worthless all that they had said on the subject. Two sects appeared to him particularly worthy of esteem, for each of them had partly descried the truth: the Stoics, represented by Epictetus, and the Epicureans, represented by Montaigne.

Epictetus knew the duties of man admirably well. He repeatedly stated that man's only study and desire should be to recognise and obey the will of God. He wished man to be persuaded that God governs all things with justice, to submit to Him willingly, and al-

ways to have before his eyes the thought of death and of the most unbearable sufferings; thus triumphing over mean thoughts and immoderate desires. But after speaking of the duties of man in such language as would befit a Christian, Epictetus fails to acknowledge man's powerlessness. He is carried away by his pride. He falls into perdition by presuming too much on man's strength. He does not perceive that the nature of man is incapable of fulfilling its duty toward God alone and unaided. He magnifies man's liberty, whereas man is really a slave to sin; he extols man's power, which he likens to that of the gods, whereas ever since the original fall man has been corrupt and miserable. And so this admirable system of ethics leads to "diabolical pride."

Montaigne falls into the opposite error. This philosopher has an incomparable faculty of making men realise their own weakness. He insensibly overthrows all that is looked upon by men as absolutely certain, not in order to establish the contrary with the very certitude which he rejects, but merely to show that since appearances point with equal force to both conclusions, we cannot possibly know whereon to ground our belief. He shows the pliability of reason for all purposes and the vanity of its principles, even of those which are regarded as firmest and most natural, the errors into which man is inevitably allured by his imagination, the tyranny exercised upon him by custom and example, and his ridiculous self-assumption. Thus reason, being "irretrievably foiled by its own weapons," is reduced to silence, and so abased that it can no longer decide whether it is superior or equal to the instinct of animals.

But on the other hand, Montaigne acts like a heathen. While pointing out admirably man's natural helplessness, which Epictetus ignored, Montaigne, with a cravenness doubly shameful in a Christian, neglects the duties of man, which Epictetus knew so well. He follows custom and instinct, and thus even as the Stoic is led astray by his pride, the Epicurean is led astray by his sloth.

Would, now, the solution consist in accepting both Epictetus's and Montaigne's mode of reasoning, merely placing them in juxtaposition? Shall we obtain the true science of morals by conceiving the duties of man as Epictetus did, and his helplessness as Montaigne did? No; such a solution is unacceptable. Montaigne does not complete Epictetus; he directly contradicts him. Placing them together would result in nothing except strife and mutual destruction; for as the one has established certitude and the other

doubt, and the one has championed the grandeur of man and the other his weakness, both their errors and their truths are mutually nullified. To reach an acceptable solution, we must discover a higher point of view, from which the contradictory elements will be reconcilable.

In spite of the diversity of the problems in question the method here followed by Pascal offers a striking analogy with that employed afterward by Kant in overcoming the antinomies of pure reason. In the third antinomy especially, Kant shows that reason cannot decide between two conflicting propositions. It cannot give up the idea that there are free causes in the universe, as for instance, man's will; but it also does not think it possible to give up the idea of the necessary concatenation of causes and effects. The interest of morals forbids that liberty should be sacrificed; the interest of science demands determinism. How does Kant overcome the antinomy? By showing that the two statements are not absolutely contradictory, but are only so in a certain sense, and that, *from different points of view*, they are both true. *In time* it is true that every phenomenon must needs be the result of antecedent phenomena. But *out of time* the law of causality is no longer necessary, and nothing justifies us in asserting of "things-in-themselves" what we know to be true as regards phenomena. So that determinism remains true in the world of experience, while liberty also prevails in that of absolute reality. The antinomy is overcome.

In the same way the moral science of philosophers, according to Pascal, results in a seemingly insoluble antinomy. Man cannot at the same time be incurably helpless, as Montaigne says, and have duties imposed upon him such as are pointed out by Epictetus; yet both of them were right. What, then, shall raise us to the higher point of view from which this contradiction disappears? Reason by itself is unable to do so. Its most strenuous exertions may carry it as far as Epictetus or Montaigne, but not beyond them. This the Gospel alone can do. It reconciles these contraries by a purely divine art; and by uniting all that is true, and by rejecting all that is false, makes of the result a truly celestial body of wisdom, wherein the conflicts which by human doctrine were irreconcilable are found to agree. And the reason of this success is that the philosophers of the world have always *put contrary things together in one and the same subject*, the one attributing man's grandeur to nature, and the other his weakness to the same source—a formal contradiction; whereas faith has always

taught us to place them *in different subjects*, attributing to nature what is infirm and what is powerful to the grace of God. Man in the helpless state conceived by Montaigne is man fallen and corrupted by sin. Man able to fulfil the duties conceived by Epicurus is another man, regenerated and redeemed by Christ, supported by God's grace. Here also the antinomy is overcome.

There remains, however, an essential difference between the case of Kant and that of Pascal. Never for a moment does Kant abandon the ground of philosophy, and the elements of his solution are supplied to him by his own *Critique of Pure Reason*. But according to Pascal the antinomy of the science of morals would have remained forever insoluble had not God condescended to enlighten us. Pascal abandons the domain of reason and appeals to faith. In order to justify such a momentous step he had to show its undeniable necessity; in other words, he had to demonstrate that the antinomy could not possibly be solved in any other manner. The science of man must appear as evident and easy to grasp from Pascal's Christian point of view, as it is absurd and unintelligible from any other point of view.

In this sense, Pascal's *Entretien avec M. de Saci sur Epictète et Montaigne* may be looked upon as a sketch, afterward to become a completed picture in the *Pensées*. We see him, in this latter work, expatiating on the grandeur and misery of man with such a passion that the strokes never seem to him strong enough or the contrast sufficiently conveyed to the reader. "What a chimera man is, what a strange monster, what a chaos, what a subject for contradiction, what a prodigy! Judge of all things, and a miserable worm; a depository of truth, and a sink of uncertainty and error; at once the glory and the scum of the universe! . . . If he extols himself, I humble him; if he abases himself, I exalt him, and always I contradict him, until he comprehends that he is an incomprehensible monster." Then, but only then, could Pascal propose, or rather impose, the only solution which, according to him, was to throw a light into this darkness: "Hearken unto God."

Pascal's method was that of persuasive demonstration, which he adopted after mature meditation, and from which he never swerved. The criticism of the dogmatic and Pyrrhonian doctrines, the picture of man's incomprehensible condition, of his grandeur and misery, the examination of social ethics, the exposition of the proofs of Christianity, all tended to one object—namely, to showing that reason itself leads to belief and finally submits to revela-

tion. But the *Pensées* have been handed down to us in a fragmentary and unfinished form; and though one can restore the leading ideas and even the main lines of the plan followed and desired by the author, one is also at liberty to regard the book as a simple collection of reflexions and maxims without reference to their hidden links and connexions, and so to emphasise only certain parts of them to the relative neglect of the others. This has been done, for instance, by those who being chiefly impressed by what Pascal says of the weakness of human reason have mistaken him for a sceptic. Thus, also, the *Pensées* have often been read for their own sake, without much regard for the end which Pascal wished them to serve. And thus it has happened also that their influence, which has been great, has not fulfilled the intentions of their author, and through such not infrequent irony of fate this great apologist of the Christian religion has supplied its enemies with a whole arsenal of weapons.

His very theory of reason, which was impotent beyond certain limits, was in itself somewhat dangerous to the cause he wished to uphold. It was quite a different thing from Montaigne's scepticism. The latter was a means employed by Montaigne to combat fanaticism and the evils engendered by it; but it was only a means, and did not prevent Montaigne from preserving a certain number of moral convictions to which he was wedded; the arguments on which that scepticism was grounded had nothing original about them. Pascal's more penetrating genius raised the question of the legitimate use of human reason itself, and sought to assign its limits. On the one hand, he acknowledges the value of positive science (provided it admits the derived nature of its principles) and in this he is unlike the traditional and improbable sceptic invented by philosophers. But, on the other hand, he affirms that "what goes beyond geometry is beyond our reach," and we also know that science derives its principles from a superior domain, access into which is denied us. We are aware of the existence of the infinite, but ignorant of its nature, of which we must remain forever ignorant, since there is no proportion between us and the infinite. Pascal here opened the door to agnosticism, of which our century has beheld numerous and various forms. Now agnosticism may be and often is found associated with religious tendencies; but it may also be antagonistic to religion. At any rate, it is nowise connected especially with the Christian belief or the Roman Catholic dogma. History shows that the abandonment of rational metaphysics has not been beneficial to revealed religion.

Thus, as regards the relations between reason and faith, with which Pascal was so infatuated, the result of his exertions ran diametrically counter to his purpose. When he says that Christian dogma, in the eyes of the world, is a vain folly, that the original sin condemning thousands of guiltless beings to eternal damnation is revolting to our sense of justice, the philosophers of the eighteenth century are loud in their praise. Many also approve of Pascal's regarding the philosophical proofs of the existence of God as inadequate to convince hardened atheists. They easily grant that reason is one thing, that faith is another thing, and that there is no natural transition between the two. But when he thence infers that one must be a Christian, he is no longer followed. His premises are retained and his conclusions dropped, to the great benefit of unbelief and of natural religion, both of which he almost equally detested.

It was next in the order of Pascal's method of demonstration to prove, as Montaigne had done, that man's reason is powerless to regulate his conduct, and that custom and prejudice alone support morals. He proceeded to this proof with such earnestness and energy that even his friends were terrified, and did not dare to publish this part of the *Pensées* without extenuating, in almost every sentence, the boldness of his thought and the harshness of his words. Yet there remained in it reflexions on justice, on law, on property, on social distinctions and privileges, and even on sovereignty, the daring of which was not surpassed in the eighteenth century. Pascal concluded that all these social institutions are mere conventions, unjustifiable to reason. Not being able to make strong what was just, men have made just what was strong. These conventions, though not respectable in themselves, become so in the eyes of a Christian; so that the frame of the social order indirectly serves to prove the truth of Christianity, since on this truth the validity of the social frame depends. But the philosophers of the eighteenth century neither were nor wished to be Christians; they merely gathered from Pascal's arguments that social institutions were a heap of rubbish, nonsense, and injustice.

Lastly, Pascal, admitting no other direct proofs of supernatural religion than supernatural facts, grounds his faith on prophecies and miracles. "Were it not for miracles," he says, "I should not be a Christian." A momentous saying, because it was liable to be interpreted quite otherwise than Pascal intended. Pascal does not mean that if miracles appear incredible to a man he is thereby exempted from being a Christian. Pascal means, on the contrary

that whoever has faith finds in miracles wherewith to explain his faith, to himself at least. He understands that prophecies and miracles prove the truth of Christianity, and if the demonstration has no effect on certain minds, it is because God has willed them to remain blind. It is not the demonstration which is insufficient ; it is they who are not in a fit state to receive it.

Still Pascal was here again opening a dangerous path. Hitherto the discussion of the outward proofs of Christianity had seldom extended itself beyond the world of theologians. Pascal was among the first to transfer it to the public domain of philosophers and men of letters. He was as poorly armed for such a discussion as can be imagined, though it is true that very few men in his time were better equipped. The divine nature of the sacred texts had prevented even the thought of a critical examination of them. But the adversaries of Christianity, although rather inexperienced in this style of criticism, soon felt that they might turn to good account the example set by Pascal. The part played in their controversy by the discussion of prophecies and miracles is sufficiently well known. Voltaire was inexhaustible on the subject of sacred history. And we may wonder whether the scientific exegesis which came later, disinterested and impartial as it was, did not deal an even heavier blow than these gibes and taunts to the beliefs which Pascal would fain have strengthened !