

The Open Court

A MONTHLY MAGAZINE

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

Founded by EDWARD C. HEGELER



THE CRUCIFIXION FROM AN EVANGELARY OF ST. GALL.

An anticipation of futurist art. (See page 206.)

The Open Court Publishing Company

CHICAGO AND LONDON

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THE CHRIST OF THE TRANSFIGURATION.

Detail from Raphael's great fresco reproduced on page 216.

Frontispiece to The Open Court.

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THE SCIENTISTS.¹

BY THE LATE HENRI POINCARÉ.

THESE men, though differing widely in many ways, nevertheless have many traits in common.

All of course are workers. However well endowed one may be, nothing great is accomplished without work, and those who have received the sacred fire from heaven are no more exempt from this law than others; their genius itself only gives them a great deal of trouble.

But there are different ways of working. There are those whose entire life is only one long patience and who, though never stopping, advance only a step each day; on the other hand, there are those who abandon themselves to their ardor and madden themselves in furious assaults against obstacles, instead of waiting for time and perseverance, in the end, to wear them out. The first sort accomplish their work as a duty—I do not say a painful duty, but in brief as a duty. They think they have received I know not what orders, and in these they do not wish to fail. For the others, work is above everything a necessity, a pleasure; they love their work as the artist loves his. It is their different temperaments which explain these divergences, and the differences of character contribute thus to make the differences of mind.

Moreover, all are impassioned. Their passion, which is the love of truth, the love of science, is generally mute but it is none the less ardent. Consequently, all are in a sense men of faith. Every passion presupposes a faith; every motive for action is a faith; faith alone gives perseverance, gives courage.

¹ Translated by George Bruce Halsted.

And yet a man is not a scientist unless he be endowed with the critical spirit, which seems to exclude every sort of faith and often causes scientists to be considered sceptics. What does this mean? When faith has a definite object it does not like to face criticism; it fears it and is irritated by it even when it professes to have nothing to fear. But the case is not the same with a faith which has no object other than a vague and indeterminate ideal. Such a faith dwells at ease with the critical spirit; it is like a goad which drives us incessantly forward; but it does not forbid us, at each crossing of the ways, freely to examine what route is the proper one to take. The men of the eighteenth century criticised everything, yet set sail full of confidence for an unknown Eldorado.

The faith of the scientist is therefore not that of the Christian; but what is more, religious faith is not always the same. There are two kinds of religious needs, the need of certitude and that of mystic love; it is rare that both meet in the same soul. It is the first that makes the orthodox, it is the other that makes the heretic. The faith of the scientist does not resemble that of the orthodox in their need for certitude. Do not believe that the love of truth is the same as the love of certitude, far from it; in our relative world all certitude is a deception. No, the faith of the scientist resembles rather the unquiet faith of the heretic which always seeks and is never satisfied. It is more calm and in a way more sane; but like that of the heretic, the faith of the scientist gives us a glimpse of an ideal of which we can only have a vague notion and gives us confidence that, without ever enabling us to attain this ideal, our efforts to approach it will not be fruitless.

The scientists of whom I have written are almost all physicists, astronomers, or mathematicians. Cultivating neighboring sciences, it would seem that their bent of mind should be nearly the same. Not at all. Side by side with workers who have confidence only in a patient analysis, we find the intuitives who rely upon a sort of divination and who are not always obliged to repent of it. Certain mathematicians love only broad vistas; in presence of a result they dream at once of generalizing it, seeking to unite it to allied results to make of all combined the base of a loftier pyramid whence they shall be able to see still further. There are others with distaste for these too extended views, since, however beautiful a vast landscape, the far horizons are always a little vague. They prefer to restrain themselves, the better to see the details and to

bring them to perfection. They work like the sculptor; they are more artists than poets.

Shall I now add that all true scientists are modest? Do not smile; there certainly are degrees. But the proudest member of the Institute will always be more modest than many second rate politicians or newly elected deputies, for whom, moreover, modesty would be a terrible embarrassment which would promptly arrest their career. When we measure ourselves by a lofty ideal we cannot but discover that we are small.

It would be grievous if this modesty were to engender distrust of self which would be an obstacle to every extended enterprise. Happily the scientists who are most distrustful of their own powers have confidence in their methods. The majority even estimate justly what they may expect of their own abilities, and if they never dream of making them an adornment to feed vanity, they love them as a useful instrument.

Thence comes that good nature noticeable in many scientists. They are appreciative since they do not seek to parade their superiority, while their vague consciousness of it produces in them an eternal good humor.

They are optimists because their passion gives them continual delight, while sparing them sadness; they never despair of finding the truth, and are easily consoled since they are never deprived of the pleasure of seeking it.

We note another trait; most of them remain young at heart. Perhaps they have not been as young as others, but they have been so for a longer period. Chevreul was still young when already past a hundred. And their very naïveté, which is evident to all eyes, is a sign of youth. This doubtless is because sorrow alone makes one grow old, and we have just seen that their passion brings only joys without griefs.

Disinterestedness is also a general virtue among scientists; to them the lust for money is almost always unknown. There have been tales I know, but these are only legends; the person most often involved was a chemist. Think with what facility his specialty would have enabled him to make a fortune in the industries, if he so wished. Those scientists who pass for selfish appear so only by contrast; in another company they would have a wholly different reputation.

But there are ways of being disinterested other than with regard to money, and here it is proper to make distinctions, to discriminate degrees. There are men who seek influence and others

who disdain it. The first have an excuse, which is that they do not desire it solely for themselves, but for their ideas; also that the scientific world cannot get along without administrators who occupy themselves with its temporal interests. But my own preferences go out to the others, whom no outside cares can distract from their toilsome dream.

Scientists should also be indifferent to glory. When one has had the good fortune to make a discovery, what is the satisfaction of giving his name to it compared to the joy of having for an instant seen the truth face to face? May we not say that the world is just as grateful to the anonymous inventor of the wheel or of fire as if it could speak the syllables of his name? I need not add that not all the world thinks thus, or at least it does not act as if it did.

And yet I have known scientists who cared little for glory. They rejoiced in their conquests, not as a personal triumph, but as a sort of collective success of the army in which they fought. In this army many brave soldiers have doubtless died and left no name, and that too after having to good purpose contributed to the common victory.

What enables us above everything to judge the scientists who are already successful is the way they receive the younger generation. Do they see in them future rivals, who will perhaps eclipse them in the memory of men? Do they show them only a provisory good-will, which will take alarm or speedily be irritated in the presence of too rapid or too brilliant a success? Or on the contrary do they regard them as future companions in arms, to whom they shall pass on instructions when retiring from the fight; as collaborators who shall continue the grand work undertaken but destined never to be finished?

Shall they submit to these young people, sometimes timidly contradicting them? Ah, the mania always to be right! There are observers who know how to deduce a law from facts, they clearly see that every one makes mistakes, that the greatest men have been convicted of many errors and are not the less honored because of it, and yet they are unwilling to conclude that neither are they themselves infallible!