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A FRENCHMAN IN HOLLAND

by

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January 20, 1986

Chicago Literary Club



In September of 1649 a Swedish warship put in at a Dutch port, where it picked up a passenger and then set sail for the North. The passenger was a famous French scientist and philosopher, René Descartes, long resident in the Netherlands. After considerable hesitation, under the urgings of Hector-Pierre Chanut, the French resident in Stockholm, he had finally contracted to move to Sweden in order to teach philosophy to Queen Christina.

This arrangement did not work out well. Initially Descartes was expected to attend court functions, which bored him. Then it was settled that he would tutor Her Majesty three times a week at 5 o'clock in the morning. Descartes had been accustomed from childhood to spend much of the morning in bed thinking. This schedule of early visits to the palace and the Swedish winter cold were too much for the poor man. He contracted a fever on February 1, 1650 and died of pneumonia ten days later.

With his frail body died one of the finest minds of the 17th Century --- intelligent, skeptical, creative. He is generally judged to have been one of the makers of the modern world. The reasons for this appraisal and the background of his achievement form the subject of this paper.



The story starts in the French town of La Haye (now La Haye-Descartes) in Touraine, where René Descartes was born on March 31, 1596. To put this time in perspective we remember that in 1596 Shakespeare was working on Romeo & Juliet, William Bradford --- founder of the Plymouth Colony --- was 6 years old, and Galileo had recently begun lecturing on mathematics at the University of Padua. René Descartes was the third son of Joachim Descartes, a councillor of the Parliament of Rennes and hence a member of the minor nobility. His grandfather, Pierre Descartes, had been a physician residing in Chatellerault in Poitou, and perhaps some of Descartes' interest in natural science and medicine derived from that source. At the age of 9 René was sent to the Jesuit school at La Flèche in Anjou, where he stayed, receiving the best education that the age afforded, until 1613, when he started the study of law at Poitiers. He graduated in 1616.

Descartes left to us reasonably abundant autobiographical materials. He has described his state of mind at this point in his life: "As soon as I reached an age which allowed me to emerge from the tutelage of my teachers, I abandoned the study of letters altogether, and resolving to study no other science than that which I could find within myself or else in the great book of the world, I spent the rest of my youth in travelling, seeing courts and armies, mixing with people of different humors and ranks, in gathering a varied experience, in testing myself in situations which chance offered me, and everywhere



reflecting upon whatever events I witnessed, in such a way as to draw some profit from them."

Descartes was relieved of the problem of earning his own living by a small inheritance of land, left him by his mother. This he turned into an annuity, which enabled him to follow a life-long program of study and literary creativity. Initially he joined an army led by Maurice of Nassau, son of William the Silent. There is no evidence that he ever saw fighting, but he did travel through much of the country which was the scene of the Thirty Years War. In Ulm, on November 10, 1619, he seems to have retreated into a room heated by a large stove or oven, and to there have had an experience of illumination --- the intellectual vision of a science based on mathematics. The following night he had three dreams which extended this vision to the notion that he should dedicate his energies to the search for certainty in philosophy and the sciences. We should remember that in the early 17th century there was no formal division between science and philosophy, and the same men followed both branches of knowledge simultaneously.

Thus we find this gifted young man, then in his early twenties, preparing to reexamine the intellectual foundations on which his world rested. The foundations were in fact crumbling. The epochal scientific event of the late Middle Ages was the enunciation by the Polish priest Nicholas Copernicus of the heliocentric model of the solar system. Copernicus' work



was not published until after his death in 1543. His ideas, strengthened by the astronomical observations of the Danish nobleman Tycho Brahe gradually became accepted by European intellectuals. In England Francis Bacon was proposing the methods on which an inductive science would be based. Descartes became a participant in this European movement. In 1633, almost 90 years after Copernicus' death, Descartes was preparing for publication a compendium of the scientific knowledge of his time and included in it a view of the motions of the sun, earth, and planets which followed the heliocentric scheme. Publication of this work was stopped abruptly when he received the news that Galileo in Italy had been forbidden by the Inquisition from making similar published statements. Descartes was --- throughout his life --- a timid man as well as a devout Roman Catholic. In addition, he apparently hoped his writings would be used as texts by his old teachers, the Jesuits. Hence he was disinclined to risk censure for advocacy of a modern description of the solar system which seemed to him reasonable but which was by no means generally accepted.

Instead he published a series of three essays with an introduction. The essays were on optics, meteors, and geometry. In the essay on optics he stated for the first time the laws governing refraction, the phenomenon which causes a stick to appear bent when it is partly submerged in water and which governs the bending of light by lenses. Today these quantitative relationships are known as Descartes' laws of refraction



--- or sometimes as Snell's laws, after the other independent discoverer. Obviously to have developed these optical laws he must have made a number of observations of the behavior of light in nature, thereby abandoning the Aristotelian notion that the world might be described by deduction from a few simple principles alone.

In the essay on geometry he announced his discovery of coordinate geometry, the mathematical tool universally used to describe the position and motions of points in space. Our current  $x$  and  $y$  axes used in graphing and charting of all kinds are descendents of Descartes' geometry. He also invented the modern notation for algebraic powers. High school seniors today study coordinate geometry before going further in mathematics. It allows them to describe lines and curves in a way that can not be done by either algebra or geometry alone and which is necessary for further progression into calculus and engineering. The invention of this branch of mathematics followed directly from Descartes' vision of a unified quantitative description of nature.

John Huizinga, in his classic Autumn of the Middle Ages, describes mediaeval man as preoccupied by the individual event, the isolated happening, without the passion for generalization which is characteristic of modern science. To any scientist today, the ideas that phenomena occur repeatedly in a regular way, and that they can best be described mathematically, are



commonplaces. Descartes stood at the turning point, when the mediaeval world evolved into that of modern times, and his insight into the need for a mathematical science was one of the leading forces for change.

In 1628 Descartes moved to Holland, where he was to live for the next twenty-one years. The Netherlands at that time had freed itself from Spanish rule and was enjoying a period of commercial prosperity brought about by an energetic merchant class and a world wide trade. The Northern Renaissance was in full bloom. We have a picture of René Descartes which was painted by Frans Hals and which is now in the collection of the Louvre. It shows the face and upper chest of a middle-aged man with a big, strong nose, hooded brown eyes, a graying moustache, and a quizzical and yet kindly expression. He wears a costume of the kind that we usually associate with the Pilgrim Fathers. In Holland Descartes changed his place of residence a number of times in order to avoid interference with his work. He generally chose new seats to have available to him the services of the Roman Catholic church. Visitors describe him as being comfortably situated and attended by devoted servants. He kept up correspondence with scholars in England and on the Continent.

The introduction to the three scientific essays mentioned above was the famous Discourse on Method, one of the classics of French literature to which every French university student



is exposed at some time during his training. It was written in the vernacular, for Descartes wanted to go over the heads of professional scholars to ladies and gentlemen of the educated public. The French style, I am told, is unusually lucid. Since philosophical writing both before and after Descartes has not been characterized by purity and simplicity of expression, one can look on our author as outstanding in this field.

In the Discourse Descartes asks how we can be sure of what we know, and, in the last analysis, how we can know anything at all. What do you mean by sure? To answer these questions he gives his four rules:

"The first was never to accept anything as true that I did not know to be evidently so; that is to say, carefully to avoid precipitancy and prejudice, and to include in my judgements nothing more than what presented itself so clearly and distinctly to my mind that I might have no occasion to place it in doubt.

The second, to divide each of the difficulties that I was examining into as many parts as might be possible and necessary in order best to solve it.

The third, to conduct my thoughts in an orderly way, beginning with the simplest objects and the easiest to know, in order to climb gradually, as by degrees, as far as the knowledge of the most complex, and even supposing some order among those objects which do not precede each other naturally.

And the last, everywhere to make such complete enumerations and such general reviews that I would be sure to have omitted nothing."

To those of us in the late twentieth century, accustomed as we are to question everything, such a statement hardly sounds revolutionary. But put yourself in Descartes' position. He



was demanding that he be shown anything that he might accept as true, "clearly and distinctly". For him, this was the bottom line. Note that these attributes are not synonyms. "Clear" means that you see (or understand) an object or thought plainly, with sharp discernment. "Distinct" means distinguished by the mind or eye as being apart or different from others. This is modern man speaking, and these are the standards of acceptance which he will use. For nineteen hundred years, from Aristotle to the seventeenth century, men had appealed to authority. If they had fresh ideas (as many did), they were brought forward as commentaries on authority. Descartes would have none of this. There is almost no reference to older authors in his basic writings. He was determined to think for himself.

The project almost shattered on the standards which he erected. "If," he reasoned, "I must see clearly and distinctly, how can I know anything? What can I know indubitably without doubt? This body that I am in, my dressing gown, my slippers --- all may be part of a dream. Every perception of the world around me may be illusion, forced on me (he speculated) by a cunning demon who chooses to deceive me. Where is there any solid ground in this sea of uncertainty? I even doubt that I myself exist at all."

The certainty he found in this proposition: Even if he doubted everything, still there must be a he that doubts. By



his ability to doubt, his existence was assured. This was the famous Cogito ergo sum (I think, therefore I exist), which formed the basis of Descartes' world view. He had based his proof of existence on a self-substantiating logical proposition. Over the many years since Descartes' time no one has successfully attacked this simple argument. The question has generally been: "Where do you go from there?" Note some features of his approach:

a. He placed questions of knowledge (What do I know? What can I know? What can't I know?) and the answers thereto at the center of the study of metaphysics. In technical terms he put epistemology (the study of knowledge) as central to ontology (the study of existence). This insight was expanded and developed by Immanuel Kant in the next century.

b. His approach to knowledge and existence was egocentric. That is, he had shown quite clearly that the thinking, rational part of him (his soul) existed, but how about anything else? His problem was that of blasting a way from this knowledge of himself to "certain and distinct" knowledge of the world. This he did through the agency of God. I will not go through Descartes' two proofs of the existence of God, the cosmological and the ontological. Neither of them were original with him. The



cosmological proof later suffered severely at the hands of Kant. In essence Descartes felt as noted above that he existed, and that he was able to prove the existence of God (who is not a deceiver), and because of the nature of God, that in the external world which he perceived clearly and distinctly must itself exist. Q E D.

c. It should be obvious from the above that Descartes was a thoroughgoing dualist, who regarded the soul as an entity apart and distinct from the body. The soul was the rational, perceiving agent whose existence had been assured and who governed the motions of the body. But how was this government to be effected? This happened, Descartes said, at the level of the pineal gland, which was, so to speak, the pilot house of the body. This seems to have been one of the great philosopher's few errors of fact. Three hundred and fifty years later we still do not have an adequate function assigned to the pineal gland (a small organ connected to the brain), but it seems an unlikely interface between body and soul.

This analysis as given in the Discourse on Method was expanded and thickened in Descartes' masterpiece, Meditations on First Philosophy, written in Latin and published in 1641. Appended to this latter work were valuable criticisms by leading European thinkers, including the English radical, Thomas



Hobbes, whose Leviathan in 1651 would be as revolutionary in the field of ethics as were Descartes' works in epistemology and metaphysics. By this time Descartes had come of age as a personality, and was awarded a pension by the King of France "in consideration of his great merits and of the utility that his philosophy and his long researches would bring to the human race". Apparently he never received any money; he did, however, pay out for the sending of the warrant. He never married but had an illegitimate daughter, conceived in Amsterdam on October 15, 1634 and born on August 7, 1635. Her death in 1640 caused Descartes the great sorrow of his life.

He had the honor of being the progenitor of both warring schools of philosophy in the 18th century, no mean accomplishment. Basically Spinoza, Leibnitz, and the rationalists felt that all nature was interconnected and that from a few simple axioms one could derive detailed information about the world including the world of human behavior. This seemed to follow from the third rule of the Method; that "thoughts should be conducted in an orderly way, beginning with the simplest objects and the easiest to know, in order to climb gradually, as by degrees, as far as the knowledge of the most complex". This view received a serious set-back when Isaac Newton late in the 17th century published his Principia based on mathematical interpretation of detailed observation of the natural world.



On the other hand, the empiricists, Berkley and Hume, accepted from Descartes his refusal to take knowledge on faith and his insistence that phenomena and connections between phenomena be shown clearly and distinctly. They also followed his lead in regarding our ability to know as central to our understanding of the world around us.

We have a second portrait of Descartes, painted by David Beck in Stockholm just a few weeks before his death. The features are those of the earlier Dutch painting, but the *joi de vivre* seems to have gone out of his expression and the light out of his eyes. It is obvious that his removal to the "land of the bears", as he called it, had brought him no final victory.

He was buried in Stockholm. In 1666 his body was removed to Paris and reburied at St. Geneviève. Once more he was moved, in 1819, to Saint-Germain-des-Prés, where he remains today.

Descartes is generally regarded as the premier French philosopher. His range of intellectual creativity was extraordinary. He initiated the modern era in philosophy. He was, throughout his life, a devoted seeker after truth, and his joy in the quest is probably his greatest legacy to our time.

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## Bibliography

Primary

- 1) Descartes, René' Discourse of Method and the Meditations  
Translated with an Introduction by F.E. Sutcliffe  
Penguin Books, Harmondsworth, England 1968

Secondary

- 1) Huizinga, Johan Herbst des Mittelalters (1924)  
Alfred Kröner Verlag, Stuttgart 1975
- 2) Randall, J.H. Jr. The Mechanical Interpretation of  
Nature (Descartes) pp. 239-242 in The Making of the  
Modern Mind Houghton Mifflin, Boston 1926
- 3) Greene, Theodore Meyer Descartes  
pp. 30-32 in Introduction to Kant - Selections  
Charles Scribner Sons, New York 1929
- 4) Russell, Bertrand Descartes  
Chapter IX in History of Western Philosophy  
Doubleday, New York 1945
- 5) Copleston, Frederick S.J. Descartes  
pp. 1-152 in A History of Philosophy, Vol. IV  
Doubleday, New York 1960
- 6) Williams, Bernard Descartes, René'  
pp. 344-354 in Edwards, Paul ed. Encyclopedia of  
Philosophy  
McMillan, New York 1967
- 7) Watson, R.I. Descartes  
pp. 144- in The Great Psychologists  
Lippincott, Philadelphia 1968
- 8) Williams, Bernard Descartes - The Project of Pure Enquiry  
Penguin, Harmondsworth, England 1978
- 9) Scruton, Roger Chap. 3 Descartes; Chap 4 The Cartesian  
Revolution  
in From Descartes to Wittgenstein Harper & Row  
1982