

VICO AND DESCARTES

VICO AND DESCARTES:  
FROM  
RATIONALISM TO HISTORICISM

By

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This work is dedicated to the solitary individual:

Though he may have not understood,  
he and he alone would not have  
misunderstood.

## ABSTRACT

In this work, we shall argue that the originality of Giambattista Vico in the history of anti-Cartesianism lies not simply, as it is generally believed, in his dissent from the anti-historical tenets of Cartesianism, but in his radical departure from the Cartesian conception of the universe. For Vico, in our view, was one of the very first, if not the first, thinker to recognise fully the implications of Cartesian mechanism and to, consequently, reject the Cartesian conception of nature and (correlatively) the Cartesian conception of man. His "nuova scienza", with its intrinsically dynamic universe and its fundamentally historical man, must therefore be understood as a fundamentally anti-Cartesian science of reality.

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## INTRODUCTION

The "nuova scienza" of Giovanni Battista Vico is fundamentally an anti-Cartesian science of man. Indeed it is beyond question that the source of the "nuova scienza" was Vico's conviction that Cartesian rationalism was propounding a false conception of nature and thus (correlatively) a false conception of man and that it was therefore imperative to put an end to its advancement. Consequently Vico constructed his radical science of man not merely, as it is generally believed, in defence of the humaniora against the methodological monism characteristic of the Cartesian approach to science, but in explicit opposition to the entire Cartesian philosophical enterprise.

The primary reason for Vico's anti-Cartesianism was his dissatisfaction with the Cartesian conception of nature. What Descartes had failed to realize, according to Vico, was that nature is in fact an essentially dynamic and evolutionary process and that to attain a "true" understanding of reality its ontogenetic constitution must be recognized and incorporated into the very fabric of scientific thinking. Consequently, Vico attempted to replace Cartesian mechanism with his revised version of Stoic dynamism which, modified by the Judaeo-Christian doctrine of creation ex nihilo, propounded an essentially teleological conception of nature. Naturally, the conception of nature as an essentially dynamic and evolutionary process became the foundation of Vico's entire philosophical enterprise, just as the Cartesian conception

of nature as pure matter in motion had become the foundation of Descartes' entire philosophical enterprise. It is, therefore, not surprising that Vico rejected Cartesian rationalism: for the Vichian understanding of reality is fundamentally different from the Cartesian understanding of reality.

The immediate philosophical consequence of the transformation of nature as pure matter in motion to nature as process is the transformation of being as the changeless substratum of reality to being as becoming, which in turn ultimately manifests itself as the transformation of man as a "thinking substance" to man as an integrality, a complex and concrete evolutionary reality. For within an essentially dynamic and evolutionary universe, all natural phenomena, including man, are in nature and are consequently complex and concrete realities forever in movement from potentiality to actuality. That is to say, all natural phenomena are compound and unified entities which go through the process of life: birth, development, maturity, decay, and death. To put it in specifically Vichian terms, all natural phenomenon come to be what they are in and through history. Thus, just as nature is a dynamic and evolutionary process, man is a dynamic and evolutionary creature; and just as nature unfolds in and through space and time, man unfolds in and through history. In other words, man, because he is a constituent element of nature and its dynamic and evolutionary processes, is a fundamentally historical being.

Moreover, the identification of being and the historical process engendered a radical transformation in the nature of philosophical thinking -- the transformation of thinking into historical thinking. Since for Vico being is becoming, to understand the nature of an object we must

understand its birth: the mode of its development out of its origins. To understand nature we must understand how it came to be what it is: we must understand its history. To understand man we must understand how he came to be what he is: we must understand his history. This emphasis on genesis (history) engendered Vico's central epistemological thesis: verum et factum convertuntur, the identity of the true with what has been made or done, that is, with that which owes its being to having been brought into existence. This formula in turn reinforces Vico's assertion that knowledge is cognition of the genus or mode by which a thing is made. Together these two epistemological principles delimit the scope of human knowledge. Since to know is to make the thing known and since God, not man, has made the world of nature, only God can know the natural world. But man has himself made the world of nations, and thus he can know the historical world. Thus history, not science, becomes the primary source of human knowledge and the basis from which to understand reality.

Thus what emerged from Vico's critical analysis of the rational understanding of reality was an essentially historical understanding of reality. By incorporating the ontogenetic constitution of nature and its processes into the very fabric of scientific thinking, Vico constructed a unique conceptual structure which engendered both the historicization of man and the transformation of thinking into historical thinking. We can, therefore, confidently state that historicism emerged directly out of Vico's criticism of Cartesian rationalism.

We are confident that this thesis can be easily demonstrated by an analysis of Vico's essentially Stoic cosmology. For the cosmology, which was propounded in the De antiquissima Italorum sapientia, a work published in

1710, fifteen years before the Scienza Nuova prima and thirty-four years before the Scienza Nuova terza, not only presents us with an explicitly anti-Cartesian science of the universe, but also firmly establishes an essentially dynamic and evolutionary conception of nature and thus (correlatively) an essentially dynamic and evolutionary conception of man as the grounds of Vico's new historical science of man. The cosmology, in other words, leaves no doubt whatsoever that Vico's "nuova scienza" is indeed fundamentally an anti-Cartesian science of man.

Indeed we are confident that this analysis will not only substantiate our thesis, but also demonstrate that the cosmology, which is usually ignored by Vichian scholars, is in fact that basis of Vico's anti-Cartesian science of man. The achievement of this end would constitute our unique contribution to the continued appreciation of the philosophical insight of Giambattista Vico.

## Chapter I

### GIAMBATTISTA VICO: THE OBSCURE INDIVIDUAL

The famous Quarrel of the Ancients and the Moderns was about to reach its apogee when Giovanni Battista Vico was born in Naples on June 23, 1668. The European mind was being transformed by a scientific and philosophical revolution which was radically altering man's thought and understanding of reality; a revolution which, however, created an intellectual environment in which Vico was like "a stranger in his own land",<sup>1</sup> alone among friends and desperately in need of recognition. For Vico was a free thinker who did not share the ideas of his fellow free thinkers. His intellectual originality and insight were, therefore, never fully appreciated and he became a rather obscure figure, convinced of his own genius, but unable to affect the intellectual climate of his age.

In our time, however, Vico is widely recognised as a brilliant historian and an exceptional philosopher. He is known especially as the progenitor of a radical form of understanding reality: Vico was the first thinker to present a comprehensive and grounded explication and defence of historicism. Formulated in explicit opposition to Cartesian rationalism, historicism, i.e., the identification of being and the historical process, was the basis of Vico's "nuova scienza", a science of man qua creator. Essentially an attempt to undermine the new mechanistic world-view by uniting philosophy and philology (what Vico called history) in a systematic defence of a teleological world-view, the

"nuova scienza" not only advanced a unique conception of man and (correlatively) of the universe, but also vindicated history as a form of knowledge, systematized the principles of historical method, and provided scholars with the seeds of all the sciences of social change. These achievements have earned Vico the title "Italy's greatest thinker".

Though it has brought Vico tremendous international recognition, the "nuova scienza" and the movement away from the prevailing philosophical current that it demanded were the causes of Vico's estrangement from his own intellectual environment. An adequate understanding of this environment and of Vico's involvement in it, is, therefore, indispensable for an adequate understanding of his vision of reality. To contribute to such an understanding is the purpose of the following brief historical analysis.

## I. The Revolution

The intellectual climate permeating the sixteenth and early seventeenth centuries was characterised by a movement away from the orthodox doctrines of scholasticism. The traditional world-view, which had its source in the medieval union of the classical conception of enformed nature and Judaeo-Christian theology, a union that had placed man at the centre of a teleological movement towards the infinite, was still dominant, indeed even enforced by the Church and universities. The will to know, however, generated a critical and independent spirit which effected a period of fundamental change in the structure of human understanding and in the nature of man's conception of the universe.

The developments that generated the movement away from authority and tradition and from which modern science and philosophy arose have been well documented. Johannes Kepler (1571-1630), employing the astronomical data accumulated by Tycho Brahe<sup>2</sup> (1546-1601), demonstrated beyond question the mathematical symmetry of the heliocentric theory of celestial motion developed by Nicolaus Copernicus (1473-1543), leading to the downfall of Ptolemy's geocentric theory of the universe. The achievements of Galileo Galilei (1564-1642), Robert Boyle<sup>3</sup> (1627-1691), and Isaac Newton (1642-1727) effectively undermined Aristotelian physics. The discoveries at the University of Padua by Andreas Vesalius<sup>4</sup> (1514-1564) and William Harvey<sup>5</sup> (1578-1657) placed medicine on a sound scientific basis. And the philosophical foundations of scholasticism were challenged first by the atomists, the Epicureans, most notably by the French philosopher and scientist Pierre Gassendi (1592-1655), and the experimentalism of Francis Bacon (1561-1626), and then by the rationalists, especially by Thomas Hobbes (1588-1679) and Rene Descartes (1596-1650). This many-sided attack upon the pillars of the traditional world-view signified the awakening of the European intellect after what seemed a long period of servitude to a sterile erudition and served notice that the age of free thought had dawned.

Ultimately, this brilliant constellation of astronomers, mathematicians, physicists, anatomists, and philosophers succeeded in obliterating the traditional view of nature and in establishing a new and impressive foundation for scientific practice. Their works, inspired by the belief that the structure of the universe as a whole is fundamentally mathematical,<sup>6</sup> generated a comprehensive and precise body of mechanical laws governing physical movement upon which the most important scientific developments of the age, including, of course, their own,

were founded. These accomplishments and the subsequent demand for quantitative precision in the expression of natural laws undermined the traditional qualitative view of nature. Its replacement was the conception of nature as a quantitative phenomenon, as the realm of pure matter and its motion in space and time, a realm amenable to mathematical analysis, and thus explainable mechanistically. This view of nature dominated modern scientific thinking, especially during the eighteenth century when it was granted universal validity.

The mechanistic view of nature was adopted by the scientific community, indeed by the learned community in general, because it offered a better opportunity than the teleological view of nature of achieving "exact" science. The extirpation of the qualitative element, i.e., form, from the conception of nature afforded a simpler, a more mathematically harmonious, and therefore a more easily explicable universe than was available within the old conceptual framework. Unlike enformed nature, a very complex phenomenon which is explicable only in terms of final causality (a purely speculative endeavour), pure matter in motion is a simple, quantitative phenomenon which is totally explicable in terms of efficient causality. That is to say, since nature is a physical phenomenon, it is governed by physical laws, and because physical laws are in essence mathematical, it is explicable in mechanistic terms. And since physical laws can be expressed with mathematical precision and their preciseness can be verified by observation and by experimentation, an "exact" explanation of nature is possible. The learned community simply could not allow such a possibility to escape its grasp, and thus the qualitative view of nature was replaced by the quantitative view of nature.



Within this mechanistic conceptual framework, the Cartesian conception of man as an independent and irreducible "thinking substance" - pure mind, as opposed to pure matter - with the capacity to know and to master and manipulate the spatial-temporal order which lies in its presence dominated philosophical enquiry into the nature of man and of his relationship to the universe. Essentially a response to the rise of the new science, to which Descartes' own mechanistic and mathematical theories had contributed,<sup>7</sup> Cartesian dualism completed the conceptual transformation initiated by the new science. Just as nature was no longer thought to be enformed, man was no longer thought to be the immanent logos and telos of nature and its processes; rather, man was now thought to be pure intellect floating endlessly through empty space -- space governed by mathematically deducible laws, or, for those who clung to their faith, the Great Clockmaker.

The scientific and philosophical revolution was not, however, as sudden and as decisive as this brief account suggests. The advancement of modern ideas was accompanied by a vigorous defence of orthodox doctrines. The conservative reaction, led by the Catholic Church, generally expressed itself intellectually via detailed and vigorous debate over fundamental issues. Though such controversy may have delayed the appropriation of new ideas, it actually contributed to the new movement by forcing the moderns to clarify fundamental concepts and establish solid foundations for their theories. But when new ideas threatened its authority, the Holy See, whose despotism extended beyond the moral to the cultural and political life of its congregation, vigorously defended its fundamental doctrines through its ecclesiastical censors. And, as a last resort, when intellectual persuasion and ecclesiastical admonishments were not enough to prevent the appropriation

and promotion of these "dangerous" ideas, it did not hesitate to use its most feared weapon -- the Inquisition. There is no need here to explain the fear wrought by the Cardinal-Inquisitors -- let it suffice to say that the trial of Galileo<sup>8</sup> weighed heavily on the minds of free thinkers, many of whom sought the intellectual freedom available in Protestant domains.

Nevertheless the Roman Inquisition was unable to break the spirit of the free thinkers. The new mentality captivated the European intellectual community. Throughout the Continent, as in Britain, scholars, convinced that knowledge and truth were "directly" accessible to the human mind, gathered in bookstores and in the homes of those possessing well-stocked libraries, and eventually formed scientific and philosophical societies, to discuss their experiments and discoveries and their theories and methods. These societies, which required powerful political patronage to survive under constant pressure from the obscurants, enhanced the reputation of the moderns and stimulated interest in the new movement. Their success, coupled with the waning political power of the Church, enabled the moderns to infiltrate and gain control of the universities by the beginning of the eighteenth century.

## II. The Neapolitan Awakening

The importance of learned societies as an integral and prominent factor in the inevitable triumph of the moderns was perhaps most evident in Italy. Following the example of the French Academy of Sciences, Italian academies, such as the Lincei at Rome and the Cimento at Florence, provided scholars with the most basic necessities for the advancement of new ideas: a forum for intellectual discussion,

instruments and laboratories for scientific enquiry and experimentation, and, when possible, funds for the publication of important manuscripts. They were thus able to nurture the spirit of free thought generated initially by the naturalism of Bernardino Telesio (1509-1588) and Tommaso Campanella (1568-1639), the pantheism of Giordano Bruno (1548-1600), and the experimentalism of Galileo, and mount a successful challenge against scholasticism. With this challenge came an intellectual renaissance: free thought prevailed and modern science and philosophy became dominant. Through the efforts of learned societies the Italian intellect was thus able to participate in and contribute to the main movement in European thought.

The enlightenment generated by learned societies had an especially profound effect in Naples. For despite the fact that Telesio, Campanella, and Bruno had all taught at the University of Naples, the development of the Neapolitan intellect was hampered by political oppression and religious despotism. In an organised effort, however, the moderns were able to awaken the intellectual spirit and Naples became a centre of modern science and philosophy.

Like most of the Italian states, Naples had a long history of foreign political domination. Spain had ruled the kingdom for over a century at the time of Vico's birth. The death of Charles II in 1700 brought an end to Spanish supremacy, but the Treaty of Utrecht in 1713, which ended the War of Spanish Succession, gave the Austrians possession of Naples. Then in 1734 the kingdom was conquered by Charles III of Bourbon and the Bourbon kings ruled Naples until 1860. Foreign viceroys, ruling in the interest of their masters, burdened the Neapolitans with fraudulent and corrupt administrations which instituted exorbitant taxes, reduced once plentiful agricultural districts to virtual

wastelands, hampered commercial development, debased the arts and literature, and forced citizens into foreign military service.<sup>9</sup> These conditions forced the rather impulsive natives to stage revolts, but these were easily suppressed by the powerful foreign garrison.

This political oppression was aggravated by the presence of a wealthy and powerful Church. The Holy See owned much of the land in the kingdom and populated it with almost 100,000 ecclesiastics, of which about 16,000 were in the city.<sup>10</sup> To protect its interests, the Church incessantly interfered with the administrative affairs of the kingdom, making an already difficult situation intolerable. The clergy, particularly the Jesuits, had a tremendous influence on the extremely religious Neapolitans. The Jesuit influence was seen by the moderns as especially negative: they believed Jesuit teaching methods discouraged insight and originality and their refusal to tolerate non-Catholic philosophical attitudes facilitated the persecution of those who dared to deviate. The proclamation of 1510 had exempted Naples from both the Spanish and the Roman Inquisition, but it did not prevent the Church from implementing inquisitional measures through the corrupt local episcopal courts. Alleged heretics were supposed to be tried by the regular procedures governing criminal trials, but the episcopal courts nevertheless used repressive measures to ensure that the correct verdict was passed. Thus, though the Spanish Inquisition had ceased to be a threat before Vico's birth, the Roman Inquisition continued to be a menace to free thought until it was fully dislodged from Naples in 1746<sup>11</sup> - two years after Vico's death.

An environment dominated by political and religious oppression cannot but cultivate intellectually impoverished

spirits. Fortunately, the interest of a few Neapolitan scholars in the new movement led to an intellectual revival. Foremost among these was Tommaso Cornelio (1614-1684), a physician, mathematician, and philosopher, who in 1649, upon his return from northern Italy where he had studied Galileo's works, introduced his friends to the writings of Galileo, Gassendi, Descartes, Bacon, Harvey, Boyle, and other moderns.<sup>12</sup> Almost immediately, Cornelio and his friends began meeting regularly in his home to analyse critically the ideas of these thinkers. Like a contagious disease, from these informal gatherings the ideas of the moderns quickly spread throughout the city. Many prominent scholars, interested in discussing astronomy, mathematics, medicine, physics, and philosophy, organised their own societies, stimulating further interest in the new movement. Not even Naples' Royal University was to remain immune. In 1653, Cornelio became professor of mathematics and through him the new science and the new philosophy entered the educational system. Though this was just the beginning, Naples was on its way to becoming one of Europe's most intellectually vibrant communities.

The major force behind Naples' intellectual renaissance was the *Accademico Investigante*. Though formally established in 1663, the *Accademico* had operated informally as Cornelio's circle of friends since 1649. Its most prominent members, the physician Lionardo di Capua (1617-1695), Naples' most famous lawyer Francesco d'Andrea (1625-1698), the bookstore owners Nicola Caravita (1647-1717) and Giuseppe Valletta (1636-1714), and, of course, Cornelio, were the leaders of the intellectual community. Meeting in the Palace of the Marquis d'Arena, its patron and protector, the *Investiganti* concerned themselves primarily with the study of nature. Following a methodological programme of extensive enquiry,

experimentation, and discussion they investigated "the nature and properties of material or corporeal substance"<sup>13</sup> in order to find "the truth in the things of nature".<sup>14</sup> The results of their investigations yielded insights into how nature functions and led to changes in standard practical procedures. In the field of medicine, for example, their suggestions resulted in the incorporation of the study of chemistry and of drugs into medical training. Their successes demonstrated the superiority of the scientific method and the practical value of the new sciences, converting many sceptics, and some obscurants, into ardent moderns.

Naturally, the Investiganti's dedication to the independent study of nature did not please the Church. The Investiganti, however, never attempted to appease the Holy See. On the contrary, as Giannone tells us in the Civil History of the Kingdom of Naples (1731), they "made it their whole study to shake off the heavy yoke which the philosophy of the cloisters had put upon the necks of the Neapolitans",<sup>15</sup> and they were very successful. First, led by d'Andrea, they challenged the legal status of the Church's inquisitional powers. Though this challenge succeeded only in gaining temporary reprieves, it led to judicial reforms which eliminated corruption in the episcopal courts and eventually enabled the Neapolitans to rid themselves of the Roman Inquisition. Secondly, it was through their influence that many young scholars, including Vico, won positions at the University of Naples and continued the formal modernisation of the Neapolitan intellect begun by Cornelio. Finally, and most importantly, it was the Investiganti who fostered and nurtured the spirit of free thought in a city they believed had been lodged in a state of intellectual inertia.

### III. A "Learned Scholar"

It was thus due largely to the efforts of the Investiganti that in Vico's youth Naples was the freest-thinking society in Italy. Traditional and dogmatic barriers were slowly eroding as scholars, however fearful of the Church's inquisitional powers, delighted in the liberating effects of atomism, Epicureanism, experimentalism, naturalism, and rationalism, which, all united in their opposition to scholasticism, permeated the intellectual scene. Vico was never really far away from this eclectic environment and it had a profound effect on his philosophical development.

In the very heart of this eclectic intellectual community, the Via di San Biagio dei Librai, his father, Antonio, owned a small bookshop which played a key role in Giambattista's intellectual development. A melancholic and highly irascible boy, Giambattista was a dedicated and diligent student, always "impatient for new knowledge"<sup>16</sup> and often studying until daybreak. Finding his Jesuit training fruitless, especially their emphasis on the summulists, whose logic was taught by pedantic and uninspiring masters, he abandoned his formal education and, "acting as his own teacher",<sup>17</sup> studied metaphysics and spent much of his time reading his father's books. Developing a special fondness for Roman history, and in particular for the history of Roman law, he decided to devote himself to the study of jurisprudence. But after two months at the University of Naples studying the minutiae of the practice of civil and ecclesiastical courts, he found that while his memory was being exercised, his intellect was suffering from inactivity. So, once again, he abandoned his formal training and studied jurisprudence on his own. Never again was he to enter an educational institution as a student, a

fact that made his academic achievements all the more remarkable.

This process of self-education continued during Vico's nine years (1686-1695) at Vatolla in nearby Cilento as tutor to the sons of Domenico Rocca, Marchese di Vatolla. The many hours of leisure his position afforded were spent examining theological, historical, and philosophical works he found at the library of the Minor Friars Observants of the Rocca's castle. To his studies of Aristotle (via Suarez), Cicero, and Tacitus, here he added the Stoics, Plato, Lucretius, St. Augustine (via Richardus), the neoplatonists, namely, Marsilio Ficino, Pico della Mirandola, Agostino Nifo, Agostino Steuchio, Giacompo Mazzoni, Alessandro Piccolomini, Matteo Aquaviva, and Francesco Patrizi,<sup>18</sup> and the works of the Renaissance humanist Lorenzo Valla. He also found great pleasure in the works of the Latin and Italian poets: Virgil and Horace, and Boccaccio, Dante, and Petrarch. Dante inspired Vico's most moving poem, "Affetti di un desperato",<sup>19</sup> an autobiographical Lucretian elegy composed in 1693, which poignantly expresses the complexity and sensibility of an individual in search of meaning and self-understanding. The poem tells us what his autobiography does not: for Vico this was a sombre period of uncertainty and this intense intellectual activity was motivated by the desire for "self knowledge".

Fortunately his autobiography does provide some insight into the nature of this intellectual activity. His studies seem to have revolved around two basic philosophical concerns: the problem of the nature of the universe and the problem of freedom of the will.<sup>20</sup> Both problems remained essentially unresolved. Vico indicates, however, that Plato and St. Augustine engendered in him a certain "disposition"



which later enabled him to meditate the "principles" necessary to resolve them.<sup>21</sup> Since the problems of nature and of freedom are the fundamental concerns of the "nuova scienza", these "principles" must be those of the "nuova scienza" and this "disposition" must therefore be the particular philosophical perspective that engendered Vico's science of man. This underlines the importance of his Vatolla years: here Vico not only absorbed the tradition, he also appropriated a particular philosophical "disposition" and began to formulate his own vision of reality.

A complete account of the genesis of Vico's science of man, certainly a desideratum, is beyond our competence. A series of statements in the Autobiography, however, enables us to indicate the source of several of its key notions and to acquire at least a partial understanding of the nature of Vico's philosophical "disposition". Even such a limited understanding cannot but cast light on the nature of Vico's mature philosophical enterprise.

Vico professes to have received his greatest inspiration from Plato, the "prince of divine philosophers".<sup>22</sup> Plato's influence supposedly is most evident in his approach to the problem of nature. Indeed, Vico claims that the Timaeus led him "thereafter to esteem lightly the physics of Aristotle and Epicurus and finally of Rene Descartes".<sup>23</sup> One might therefore ask why Plato's Timaeus caused Vico to reject the physics of these other philosophers and in what way it contributed to his own view of nature.

The Timaeus appealed to Vico primarily because he believed its ground to be the metaphysical principle of "the eternal idea drawing out and creating matter from itself".<sup>24</sup>

He thought that on the basis of this principle Plato established that God, by an act of creation, brought into existence a universe permeated throughout by his own nature. Accordingly, man, as a creature in this universe, somehow participates in God's nature and creative activity. Thus he is an immortal creature with the capacity to understand the universe and the capacity to create things. Though not omnipotent, man has the capacity, for example, to meditate and create an ideal commonwealth based on eternal truths that can endure permanently. Through his meditations and creations man can therefore, to a certain extent, bridge the chasm that exists between Creator and creature without altering the essence of their relationship. By making the "eternal idea" the principle of all things Plato was thus able to maintain the rational distinction between Creator and creature and yet present a view of the universe as a harmonious unity. This, at least, seems to have been Vico's understanding of Plato's view of the universe.

This metaphysical principle of creation, however, was not Plato's but the basis of the emanatistic monism of Plotinus. Emanation is the doctrine that creation was a primal act of generation in which God (the One), the seed of all potency, in a single spontaneous and necessary efflux of power, caused by the overflowing of perfection, unfolds all potentiality (the many), and yet remains undiminished. Accordingly, all things, material and immaterial, have one source, God, of whose being they are a part and whose nature they somehow share. This is a vast departure from Plato's view of creation as the deliberate act of a demiurge, who, like a craftsman, fashions all things out of a pre-existing material substance, a substance that limits his faculty of operation. Yet Vico confused Plato with Plotinus, whose ideas he must have received from the neoplatonists, and therefore believed that the Timaeus was based on the notion

of emanation. This confusion explains Vico's understanding of Plato's view of the universe: for he believed that the Timaeus was based on a principle consistent with the Christian doctrine of creation ex nihilo.

This misconception certainly accounts for Vico's rejection of Aristotelian physics. Aristotle, he believed, had favoured the belief in an external creation, the belief that God merely formed individual things out of pre-existing matter, like "a potter who works at things outside himself".<sup>25</sup> Vico, however, believed that the externalisation of the Creator erected an intellectual and moral barrier between man and God, a barrier that made the unity demanded by reason and desired by faith unattainable. He therefore rejected Aristotle and favoured Plato, who, he thought, preserved this unity.

But there was another reason for Vico's Platonic -- or, to be exact, neoplatonic -- sympathies. In the Timaeus, Plato claimed that the matter from which the universe was formed was ultimately reducible to various geometrical forms and that the demiurge in fact created the universe from these geometrical forms.<sup>26</sup> Vico understood this to mean that geometrical forms are intelligible, immutable, and eternal ideas in the mind of God and that God thus made the physical world (nature) by an act of will from these eternal ideas. He therefore concluded that Plato "holds the world to be made of numbers",<sup>27</sup> i.e., of innumerable triangles or mathematical points. He concluded, in other words, that Plato thought reality is in essence immaterial: that eternal ideas are the real elements of the real universe and the elements from which all material things are generated. This made perfect sense to our young scholar: a universe created by God ex nihilo must in essence be immaterial. Since he believed in creation ex nihilo, he could not but be

attracted to neoplatonism.

It is therefore not surprising that Vico rejected the physicalist explanations of the universe. Indeed Vico states his objection clearly: he "could not accept either seriously or playfully the mechanical physics of Epicurus or Descartes, for both start from a false position."<sup>28</sup> The ground of both Epicurean and Cartesian physics was a physical principle, namely matter, or, in Vico's words, "matter already formed".<sup>29</sup> Nature was thus conceived in terms of a single physical substance, which Epicurus explains in terms of atoms and Descartes in terms of extension and motion. Thus, by grounding their physics in a physical principle, Epicurus and Descartes denied nature a logos: Epicurus by denying the existence of a "thinking substance" and Descartes by extirpating it from nature. For Vico, who had accepted a neoplatonic view of nature, this was simply a misrepresentation of reality. Nature is not purely physical: there is "mind" and it is in nature and it cannot be extirpated from nature. Had Epicurus and Descartes begun with a metaphysical principle, their physics may have represented reality as it truly is. But they did not and Vico thus simply could not accept their views of the universe.

Though Vico says little about either Epicurean or Cartesian physics, it is obvious that, as with Aristotelian physics, he disliked their moral implications. He believed, in fact, that it was impossible to establish a moral philosophy on the basis of either view of nature. The Epicurean universe was governed by chance. It was, therefore, a universe without purpose, guided solely by the dictates of fortune. One cannot, however, base moral principles upon probability alone. And even if one could, without purpose there is no meaning and without meaning

there can be only nihilism. The Cartesian universe was governed by necessity. It was, therefore, a universe without freedom, determined completely by the mechanical laws of nature. Without freedom, however, there can be no questions of morality and there is no need for moral principles. As a devout Catholic, Vico simply could not accept these implications. He believed that the universe was created by God and that God could not but create a moral universe.

It is of great importance to note that Vico explicitly states that in contrast to Epicurean and Cartesian physics he was disposed to look with favour upon the physics of the Stoics. He could not, says Vico, "bring himself to despise the physics of the Stoics, which holds the world to consist of points, for between this and the Timaeian there is no substantial difference."<sup>30</sup> He also says that he later tried to "re-establish" this relationship between Plato and the Stoics "in his book On the Most Ancient Wisdom of the Italians."<sup>31</sup> This statement indicates that the physics of the Stoics had a profound cosmological influence on Vico. Indeed in the De antiquissima he attributes his cosmology -- the theory of metaphysical points -- to Zeno of Citium, the founder of Stoicism. And, as we shall see in the next chapter, Vico's conception of the universe, though modified by the doctrine of creation ex nihilo, is in fact essentially the Stoic conception of the universe. This is certainly not surprising. For Vico was of course simply following the neo-platonic tradition of attempting to synthesize the physics of the Timaeus (the ultimate source of Stoic dynamism) and Christianity in a teleological world-view.

Indeed it is quite clear that Vico preferred a teleological view of the universe. For he wanted to

maintain that God created the universe with a particular end in mind, so that there was purpose and meaning in the universe, and that it was therefore a moral universe. But he also wanted to maintain that God created man as an autonomous creature, so that there was also freedom in the universe. This, however, raised a problem: how can man be free in an ordered universe that is moving towards a predetermined end?

Here the influence of St. Augustine comes to the foreground. St. Augustine had maintained that God had chosen to confer a free will upon his human creation, for had he not created man in his own image? But man had misused his freedom of choice and became the author of his own degradation. After the fall, man retained his free will; but for his salvation he required the grace of God. In his mercy, God chose to restore to man his original liberty. He therefore ordered the universe in accordance with the principle of justice,<sup>32</sup> so that those who exercised their free will wisely were saved and entered the City of God and those who did not were damned and remained in the City of Man. God had thus ordered the universe with a particular end in mind -- the restoration of original liberty -- and yet man still had free will. St. Augustine was thus able to find a place for free will under the all-determining mind of God.

There is no doubt that St. Augustine's doctrine of grace had a profound influence on Vico. For it enabled him later to meditate the principle of the natural law of the gentes.<sup>33</sup> This principle establishes the needs and desires of humanity as the source of all changes in the structures of civilisations and thus the human will as the source of movement in history. Now, according to Vico, the end towards which history moves is humanitas: the realisation

of the divine idea of man as a fully developed rational being. It was to achieve this end that fallen man had been allowed to retain his free will; and God, in his mercy, ordered the historical process to ensure the vindication of man. The struggle to achieve humanitas thus became an historical process, a process guided by providence but dependent upon the free will of mankind. This was the mature Vico's solution to the problem of freedom. Like St. Augustine's solution, it was based on the belief in the grace of God and in a teleological understanding of reality.

As we have seen, Vico's early philosophical "disposition" was distinctively neoplatonic and demonstrated a moral aversion to all forms of physicalism. That neoplatonism influenced Vico's understanding of the universe is beyond question; that it contributed to his own science of man can be easily demonstrated. Vico's fascination with the doctrine of emanation led him to two important discoveries. The first, which has already been mentioned, was that man, because he participates in God's nature, is a creative being. A complete understanding of man must therefore include a consideration of man qua creator. This conviction was reinforced by the discovery of the importance of the notion of "creativity". Because the universe was created by God and because in God thought and action are one, Vico realised that "truth" and "creativity" are intimately connected and concluded that the notion of "creativity" must therefore be the key to understanding the universe. And he also realised that since man is a creator, in man thought and creativity, though not one, must be intimately connected and the notion of "creativity" must therefore also be the key to understanding man. So convinced was Vico of this that the notion of "creativity" became the foundation upon which he constructed the "nuova scienza", the science of man qua creator.

But what kind of science will this "nuova scienza" be? To answer this question we need only to return to Vico's principle of freedom. The principle of the natural law of the gentes is an historical principle; it establishes man as an autonomous being in history. Within the historical process man can act freely, he can choose and do as he wishes, he can even effect changes in customs, laws, and institutions. More importantly, man can, because he is autonomous and because he is a creator, create new customs, laws, and institutions. Thus, as Vico will later say, just as God creates nature, man, by creating customs, laws, and institutions, makes history. The historical world is therefore the world of man; to understand man, we must therefore understand the historical world. The "nuova scienza" will thus be an historical science of man. And because the historical process progresses towards humanitas, the "nuova scienza" will be a teleological science of man. Thus the "nuova scienza" will indeed be a new science of man.

We are now in a position to understand the nature of Vico's early philosophical "disposition". The neoplatonists had engendered in him the conviction that man is an autonomous creative being in a teleological universe. This conviction shaped Vico's philosophical understanding and thus his vision of reality. We must not, therefore, undervalue the importance of his Vatolla years. Here Vico appropriated his philosophical "disposition" and cultivated the ideas that engendered his own unique science of man.

In his autobiography, Vico refers to his Vatolla years as his "period of solitude",<sup>34</sup> of self-imposed isolation from the new philosophy. This was in fact an exaggeration. The Roccas had a residence in Naples at which they, and thus their tutor, spent part of every year, so Vico was in nearly



continuous contact with the city's philosophical eclecticism. Thus, his predominantly classical self-education was supplemented by the ideas of the moderns.

Among the moderns with whom Vico became acquainted in his father's bookshop were members of the *Accademico Investigante*. The *Accademico* had been disbanded in 1670 for political reasons, but was revived informally in 1683 by Valletta and Caravita. Now more of a philosophical than a scientific society, the *Accademico* was primarily concerned with the critical but sympathetic analysis of Cartesian rationalism. Though it is not certain whether he was a member of the *Accademico* during this revival, "it is almost certain that Vico attended some of its later meetings, for Valletta and Caravita were his chief patrons".<sup>35</sup> But we do know that its revival was the source of Vico's earliest philosophical inspiration,<sup>36</sup> and that he was definitely a member when it was revived for the last time in 1735.<sup>37</sup> Moreover, some of his closest friends were *Investiganti*: Caravita, who nominated him for the chair of rhetoric at the University of Naples, a position he won in 1699 and held until he was succeeded by his son Gennaro in 1741; Paolo Mattia Doria, with whom he discussed metaphysics and Descartes;<sup>38</sup> and Gregorio Caloprese, "a great Cartesian philosopher who held Vico very dear",<sup>39</sup> were among those with whom Vico shared his thoughts. His association and friendship with the *Investiganti* indicates that he was not detached from the new philosophy, but that he in fact took an active interest in it, especially in Cartesian rationalism. This was not an accident, for he too, as we have seen, was searching for new knowledge about nature and man.

Once Vico became professor of rhetoric, however, his thirst for new knowledge was overshadowed by "the aim of

winning distinction for himself and the university in the field of jurisprudence".<sup>40</sup> Vico did indeed acquire the reputation of being a fine scholar. He was considered to be among the finest teachers in the university and his pupils, whom he prepared for admission to the study of law, were deeply attached to him.<sup>41</sup> His lectures, especially his inaugural orations, which he delivered between 1699 and 1708, drew very large audiences and earned him praise from distinguished scholars. His reputation was enhanced by the publication of two monographs: that in 1709 of his inaugural oration of 1708, De nostri temporis studiorum ratione,<sup>42</sup> a now famous treatise on education; and that in 1710 of a treatise on metaphysics, De antiquissima Italorum sapientia.<sup>43</sup> He also wrote two commissioned works of historical value: the unpublished history of the conspiracy of Macchia, "De Parthenopea Conjuracione"; and the biography of Marshal Antonio Carafa, a Neapolitan noble who served the Austrians, which was published in 1716. To most observers, it seemed that the dedicated autodidact was well on his way to becoming a successful professional academic.

But despite his academic accomplishments, Vico was often deeply despondent. In part this was attributable to his financial misfortunes. His meagre salary, 100 ducats a year, already taxed by the needs of a large family, was overburdened by the large debt caused by excessive health care needs. One of his daughters suffered from a long and serious illness that caused her death; and Vico himself was throughout his life-time a sickly individual, suffering from a delicate constitution in his youth and adulthood, and from throat-cancer in his later years. To provide the necessities for his family and to pay his debts he was obliged to seek occasional employment. He thus accepted private students and composed and published panegyrics, epithalamia, funeral orations and even sepulchre

inscriptions for a small fee. This was never enough to pay his debts, but he was able to provide for his family's needs.

The chief cause of Vico's despondency was his unfulfilled desire for academic recognition. Being just another "learned scholar" was simply unacceptable. Vico wanted to become a member of the higher echelon of the academic world. His one and only opportunity for professional advancement was the academic competition for the "first morning chair of law" in 1723. This position, which had been vacated in 1717, paid 600 ducats a year and carried permanent tenure<sup>44</sup> -- a definite boon for one in a constant state of poverty seeking professional status. Inspired by Hugo Grotius's De jure belli ac pacis (1620-1625), Vico spent three years preparing a philological and philosophical treatise on universal law, the Diritto universale<sup>45</sup> (1720-1722), with which he sincerely expected to win the competition. But Vico, lacking social and political tact, neglected to actively campaign for the appointment (in 1699 Caravita had done this for him to secure his placement), believing that knowledge alone was the decisive factor in the competition. Consequently, when he delivered his competition lecture, he did so totally unaware of the fact that the winner had already been chosen.

Vico's failure in this academic competition was the most philosophically significant event of his life. The realisation that now, at fifty-five years of age, he had to give up hope of "ever holding a worthier position in his native city",<sup>46</sup> released him from his preoccupation with writing for professional advancement and afforded him the liberty to concentrate on the development of his own philosophical ideas. Totally absorbed in his thoughts and working at a furious pace, one year later Vico completed a

treatise refuting the natural-law theories of Grotius, Selden, and Pufendorf; the philosophical doctrines of the Epicureans, of Hobbes, Descartes, Spinoza, Locke, and Bayle; and the views of scholars such as Cassaubon, Saumaise, Voss, and Bochart. But Cardinal Corsini, later Pope Clement XII, to whom this work was dedicated, was unable to fulfill his promise to finance its publication; so Vico had to sell his only valuable possession, a ring, in order to publish it himself. The sum he received for his ring, however, covered only about a quarter of the publication fee. This was a blessing in disguise; for it forced Vico to abandon the via negativa and to present his ideas in a positive treatise.<sup>47</sup> This work, one-fourth the size of his negative treatise, was published in 1725 and was the first edition of Vico's magnum opus, the Scienza Nuova. A second, almost entirely new, edition, usually referred to as Scienza Nuova seconda, appeared in 1730; and the Scienza Nuova terza,<sup>48</sup> the last revision, was published posthumously in 1744.

The publication of the Scienza Nuova prima was accompanied by that of Vico's autobiography, a record of his intellectual development and achievements. Its publication was documented evidence that Vico was at last beginning to receive recognition; for it was composed at the request of a Venetian noble, Count Gian Artico di Porcia, who published it solely for the purpose of inspiring young Italians to pursue wisdom and to contribute to the advancement of learning. This was indeed an appropriate tribute. Vico's dedication to truth and knowledge, and the intensity with which he pursued them, even in times of despair, severe illness, and old age (up to his very last days Vico was correcting and altering the Scienza Nuova seconda), could not but be an inspiration to young would-be scholars, just as it earned him the respect and admiration of his learned Italian contemporaries. Vico was indeed an individual of

whom it can be truly said that he was consumed by the desire to know and lived his life accordingly: what better example can one offer an acolyte.

#### IV. Obscurity

Being raised in the heart of the Neapolitan intellectual community at a time of great debate had provided Vico with an eclectic background; his friendship with leading intellectuals had kept him near the centre of controversy; and his academic achievements, particularly his abilities as a teacher, had earned him the respect and admiration of his contemporaries. Yet in his autobiography Vico tells us that he "lived in his native city not only as a stranger but quite unknown".<sup>49</sup> Why did Vico make this statement? What did it mean? To understand Vico and his contribution to the history of philosophy, this enigmatic statement must be unravelled.

As we have seen, Vico's desire for knowledge and truth was equalled by his desire for intelligent appreciation of his work and recognition of his intellectual originality and insight. Nowhere is his originality and insight better exemplified than in the Scienza Nuova. In this great work, Vico, on the basis of the epistemological formula verum et factum convertuntur<sup>50</sup> (the true and the made are convertible, meaning that man can attain knowledge only of what he himself has made), propounded a dynamic and evolutionary conception of reality, whose movement, though guided by providence, has its source in the needs and desires of essentially creative beings. Man is not an irreducible "thinking substance"; man is an integrality,<sup>51</sup> a thing that has a mind and a body and a spirit and is an essential constituent of the natural and of the historical

world. That is to say, man qua creature is a thing in nature that has a mind and a body and a spirit, and man qua creator is an historical being in the sense that history is the creation of the progressive thought of humanity. Men make history by creating, whether from the instincts, drives, desires, and needs of their primordial ferine ancestors or from the complex and abstract ideas of philosophers, the basic customs, laws, and institutions which generate religious, cultural, social, and political development. And since man can know only what he has created and since God, not man, has created and can therefore know nature, history, not science, becomes the primary source of knowledge and the basis from which to understand reality. This was Vico's vision and the essence of his "nuova scienza".

The publication of the Scienza Nuova, amid great personal and financial adversity, was perhaps Vico's greatest triumph. In a letter written on October 25, 1725, to his Capuchin friend Father Bernardo Maria Giacco, Vico expressed his victory with these sentiments: "I feel myself clothed upon with a new man" because "this work has filled me with a certain heroic spirit, so that I am no longer troubled by any fear of death, nor have I any mind to speak of rivals".<sup>52</sup> Vico had sensed the greatness of the Scienza Nuova. He knew that he had provided humanity with a mirror with which to see itself as it truly is: an ever changing and evolving nature with freedom to make its own world and thus shape its own destiny. He sensed that this discovery would earn him that elusive recognition he so desperately wanted; indeed, he believed that it would rank him among the truly great thinkers in the history of ideas.

But Vico's expectations, given the initial success of the greatest of his works, were unrealistic and thus bound

to lead to disappointment. He himself had bitterly noted in his letter to Giacco that his contemporaries had not appreciated the genius of the Scienza Nuova.

In this city I account it as fallen on barren ground. I avoid all public places, so as not to meet the persons to whom I have sent it; and if I cannot avoid them, I greet them without stopping; for when I pause they give me not the faintest sign that they have received it, and thus they confirm<sup>53</sup> my belief that it has gone forth into a desert.

And though over the next nineteen years the Scienza Nuova attracted a fair number of admirers, many of them were much more fascinated by Vico's philological insights into ancient Greek and Roman history than by this philosophical vision. Thus, while his philological knowledge did earn him the position of Royal Historiographer of Naples in 1735, his philosophical vision was unable to foster enough of a Neapolitan or European following to generate a new philosophical movement. Hence, Vico remained just another "learned scholar" and he died in the night between January 22 and 23, 1744 with unfulfilled visions of grandeur.

The conferment of intellectual greatness upon Vico did not occur because the advance of scientism and Cartesian rationalism had undermined the credibility and value of history. The historical enterprise during this period was dominated by the critical historiography of the Renaissance humanists who had secularized history by emphasizing natural rather than supernatural causality in historical interpretation. This shifted the focus of historical concern from the City of God to the City of Man and made the rise, apogee, and fall of human civilisation the substantial matter of history. What is seen in history is not God's great works and miraculous deeds, but a vivid illustration of man's actions and works. Hence, history was, in their

view, a guide to life. The study of history teaches by simple concrete and particular examples moral and political wisdom. A political and military narrative on Caesar or Alexander, for instance, can teach the stratagems of politics and war much more effectively than can complex and abstract general philosophical arguments. This capacity to teach is what made history valuable and the study of history useful. It is also one of the reasons<sup>54</sup> why the scientific and philosophical revolution was accompanied by an historical renaissance.

But this historical renaissance was not unaffected by the scientific revolution. Both the historian and the natural scientist were primarily concerned with ascertaining truth in particular, factual things. The success of the scientific method, however, gave natural scientists a decisive advantage in the reconstruction of particular truths. As natural science, especially physics, became more precise, the demand for exactness was made upon history. There were attempts to make history more scientific by developing new techniques for determining the dates and authenticity of valuable documents, but the explanatory hypotheses in which these documents were used went unquestioned, allowing historians to distort facts for the purpose of moralising. This happened because historians remained much more concerned about the utility of history than about the question of how it could be made scientific. The realisation that truth and certainty were being sacrificed to moralisation inevitably discredited the study of history and undermined its pedagogical value.

The value of history was further undermined by the anti-historical attitudes of rationalists such as Descartes and Malebranche. They argued, as we shall see in our final chapter, that historical data, no matter how carefully or



scientifically ascertained, was not and could not be certain because it was, unlike mathematical truth, wholly dependent upon experience rather than upon ratiocination. Since historical data could not be certain, it could not be true knowledge. Hence, those seeking true wisdom should not consult history. In a world that was predominantly Cartesian, this pronouncement did little to enhance the credibility and value of history.

We are now able to explain Vico's bitter epigram. He was a "stranger" in Naples in the sense that his philosophical vision was radically different than that of the new philosophy which had captivated the city's intellectual community; and he was "unknown" because in an environment dominated by the positivism of experimental science on one side and by Cartesianism on the other, an historical science of reality could not be fully appreciated. To claim, as Vico did, that reality is essentially historical was tantamount to claiming that the new movement was in principle fundamentally in error. Vico was telling the moderns that nature cannot be conceived as pure matter in motion and that man cannot be conceived as pure mind, that they were simply wrong to have abandoned the classical conception of enformed nature, that the mechanistic conception of the universe does not correctly mirror reality. Such claims could not be taken seriously by his contemporaries. It should not be surprising, therefore, that Vico's insight and originality alienated him from his own intellectual generation and assured that his genius would go unrecognised.

## V. The Rediscovery of a Genius

Vico was not, however, destined to remain forever buried in the ashes of obscurity. During the two generations following his death, two important developments in historical interpretation, both associated with Romanticism, namely the rise of a new perception of history and the emergence of the conception of history as progress, set the stage for the so-called "rediscovery of Vico" in the nineteenth century.

During the Renaissance, as we have seen, history was valued as a pedagogical instrument. During the Enlightenment, however, scholars were concerned primarily with the present and consequently found little value in the past. And because of the dominance of rationalism, the Enlightenment was not only an unhistorical period, it was predominantly anti-historical. Fortunately, this negative attitude towards history was counteracted by the tendency of the Romantics of seeing history as interesting and valuable in itself. This tendency generated sympathetic and thorough investigations of past civilisations, which enriched the general historical outlook and rejuvenated the historical spirit. But, more importantly, it altered the way in which history was perceived: no longer was history thought to be valueless, nor merely a useful pedagogical tool; now it was thought to possess intrinsic value. As a result, from this time onwards, history was (as it still is) valued and studied for its own sake, as well as for its utility.

As Collingwood points out, this tendency might have developed into a futile nostalgia for the past had it not been for the presence in Romanticism of the idea of history as progress, as the development of human reason or the

education of mankind.<sup>55</sup> The historical process, according to this view, is a continuous movement towards perfection and consists of a sequence of stages of development, past, present, and future, wherein the earlier stages lead necessarily to the later, more perfect, stages. Thus, a past stage has permanent value in itself, as a unique achievement of the human mind, and as an integral aspect of the historical process as a whole. And history is, consequently, the essential element of the study and understanding of human development, however it manifests itself (politically, socially, religiously, intellectually, culturally, or economically) and in all of its stages, from the most primitive to the most civilised and from the most sensual to the most rational.

Beyond legitimising this new perception of history, the importance of the idea of history as progress lies in the fact that it undermined the conception of human nature as something static and permanent, as the immutable substratum underlying the course of historical change.<sup>56</sup> This view had had a fundamentally limiting effect on the historical enterprise: because what is unchanging is unhistorical and therefore not amenable to historical analysis, the narration of a genuine history of man, a history of how man came to be what he is, was impossible.<sup>57</sup> On the contrary, the idea of history as progress introduced the conception of human nature as something that changes and evolves in and through history. Therefore, according to this view, human nature can be analysed and explained historically, and thus the history of its development can be written. Hence, historians were no longer restricted to the narration of events; now they could investigate the development of human nature, trace its movement towards perfection, and write its history. They could, in other words, write a genuine history of man.

The acceptance of the idea of history as progress and of human nature as something essentially historical prepared the way for a more scientific approach towards history. For it was believed that since human nature was a product of an historical process, the forces that govern the historical process must also govern the movement of humanity towards perfection. Thus, just as seventeenth century scientists had discovered the fundamental laws of physics, late eighteenth and nineteenth century thinkers attempted to discover the fundamental laws governing the movement of history, or (correlatively) the development of human nature.<sup>58</sup> The discovery of historical laws would make possible the establishment of an explanatory structure for the historical process and, thus, for human development. But above all, this discovery would enable scholars to make history scientific, to make history a source of knowledge, like physics, and thus obliterate the anti-historical dogmatism generated by rationalism.

The primary requirement for making history a science was the formulation of the principles of historical method. This was indeed fortunate. For it was while they were preoccupied with methodological concerns that scholars discovered Vico<sup>59</sup> and found, much to their surprise, that he had already addressed the problems with which they were concerned and that he had propounded many of the ideas they thought were unique to their own time. Realising that they had discovered the source of a new way of understanding reality, they appropriately acknowledged Vico's originality and insight and placed great value in his work. And though only a few truly understood the genius of the "nuova scienza", they quickly spread Vico's vision of reality throughout Europe and Britain. It was not long afterwards that Vico was rightfully proclaimed the father of the philosophy of history and was thus finally accorded the

recognition he had so desperately wanted, but was denied, during his own lifetime.

The posthumous conferment of intellectual greatness upon Vico was due largely to the efforts of the brilliant French historian Jules Michelet (1798-1874). Like many of his contemporaries, Michelet was concerned with the task of making history a science, a task which he attempted to accomplish through the unification of history and philosophy<sup>60</sup> -- just as Vico had done one hundred years earlier. It is not surprising, therefore, that when Michelet found a reference to Vico in a book he was reading one day in January, 1824, he immediately recognised the importance of Vico's work. So decisive was this moment in Michelet's life that he learned Italian in order to read Vico and appropriate and understand fully his vision of reality. He later expressed the ecstasy of this moment as follows: "1824. Vico. Effort, infernal shades, grandeur, the Golden Bough." "From 1824 on", he continues, "I was seized by a frenzy caught from Vico, an incredible intoxication with his great historical principle."<sup>61</sup> Thus inspired Michelet dedicated himself to the study of Vico's life and writings and to the promulgation of the "nuova scienza".

The scope and effect of Michelet's contribution to Vichian scholarship has been well documented. In 1827 he published an abridged translation of the Scienza Nuova under the title Principes de la philosophie de l'histoire, and a sketch of Vico's life and work in the Biographie Universelle. The translation of the Scienza Nuova was reissued in 1835, along with translations of Vico's autobiography and some of his minor works and letters, as the Oeuvres choisies de Vico. Considered a work of genius by Vichian scholars, this collection made Vico's writings

accessible to a larger audience than ever before and gained him many new admirers. The reason for this success was that instead of producing a literal translation, Michelet reproduced "with faithfulness and vividness the substance and spirit"<sup>62</sup> of Vico's work in an intelligent interpretative translation, which, unlike the original text, is clear and concise and easy to read. This was no small matter: literal translations, such as W.E. Weber's German translation of the Scienza Nuova (1822) and a later French one by Princess Belgioioso (1844), were as obscure and as difficult to read as the original, and thus were, like the original, little read. Michelet's translation, on the contrary, was found more intelligible than the original, even by Italians, and thus had a positive effect on Vichian scholarship. To be precise, the Oeuvres choisies de Vico brought Vico's ideas to the forefront of international historical and philosophical discussion, stimulating interest in his work and earning him widespread recognition.

Michelet also contributed to Vico's growing European reputation through the concrete and practical employment of the central ideas of the "nuova scienza". His histories, which were widely read and very influential, were, for example, based on Vico's conception of man making his own history. And of no less significance was the fact that his famous seminars revolved around Vico's views on history, philosophy, and language. The importance of this service was that by writing and teaching history from within the Vichian paradigm of reality, Michelet was in effect adding substance to Vico's vision and demonstrating the value of seeing history, and indeed all of reality, from a point of view that is purely and distinctively human. Such an accomplishment could be nothing but a boon to the fortunes of the "nuova scienza" and of its progenitor.

In a sense, Michelet's services were acts of tribute to the individual who inspired him to pursue wisdom. As he tells us in the preface to his monumental Histoire de France (18--): "I had no master but Vico. His principle of living force, of humanity creating itself, made both my book and my teaching."<sup>63</sup> But without question Vico's contribution to Michelet's intellectual development was equalled by Michelet's contribution to the resurrection of Vico's vision of reality. As a translator, as an historian, and as a teacher, Michelet was able to stimulate a profound interest in his master's work. There can be little doubt that Michelet was the individual most directly responsible for Vico's prominence in the nineteenth century.

Michelet was not the only nineteenth century scholar who studied Vico with intelligence and sympathy. In Vico's homeland, a group of Neapolitan scholars succeeded in making the Scienza Nuova "the book of the Risorgimento"<sup>64</sup> and its author a national figure. Among the more prominent members of this group were Giuseppe Ferrari, who edited Vico's works (six volumes, Milan: Classici Italiani, 1835-37) and "made 'Vico and Italy' a war cry of nationalism"<sup>65</sup>, and Bertrando Spaventa, an Hegelian idealist who promoted Vico as "the true precursor of all German thought"<sup>66</sup> and thus made Vico's thought fundamental in the study of the history of ideas. In Germany, where Spaventa's claim was not taken seriously, besides Weber, whose translation of the Scienza Nuova was accompanied by one of Vico's autobiography, Karl Werner, a Catholic scholar, published an excellent book entitled Giambattista Vico als Philosoph und gelehrter Forscher in 1881 -- the first non-Italian treatise on Vico. And three years later, Robert Flint, the first British philosopher to study Vico's works thoroughly and at first hand, published a short monograph entitled simply Vico, a work which is still considered the standard English

exposition of Vico's life and writings. These men, and others like them, accomplished at a national level what Michelet accomplished at an international level: they made the intellectual community aware of Vico and earned him recognition and respect.

Thus occurred the resurrection of Vico from the ashes of obscurity. The intellectual climate permeating the late eighteenth and nineteenth centuries had brought about a change in attitude and a new approach towards history; so what in Vico's time had been a foreign and unacceptable vision of reality, now was an appropriate and relevant form of understanding man and the world in which he finds himself. In other words, as history became a respected science, the "nuova scienza" became a respected vision of reality and its progenitor a respected philosopher. Hence, there is indeed truth in the traditional assessment that Vico was a thinker who was "born before his time". Now we may perhaps add to this assessment the verdict that history itself, the foundation of the "nuova scienza", made the vindication of Vico possible.

One cannot but be overcome by the feeling that there is a certain sense in which the story of Vico's intellectual life demonstrates the awful presence of historical inevitability. Certainly the fortunes of the "nuova scienza", the planet in and around which his intellectual spirit gravitated, suggests that this is so. And Vico himself claims that his life-work, the Scienza Nuova, demonstrates "that his intellectual life was bound to have been such as it was and not otherwise".<sup>67</sup> The cause of this sense of resignation was the "nuova scienza" itself. As a radical form of understanding reality it, as we have seen, alienated Vico from his intellectual environment and, in a sense, determined the course of his intellectual life. We



now know why it alienated Vico from his intellectual environment. But to understand fully why the "nuova scienza" constitutes a radical form of understanding reality a thorough understanding of Vico's science of man is required. It is towards this end that we now proceed.

## Chapter II

### THE HISTORICIZATION OF MAN

As we have indicated the "nuova scienza" is an historical science of man. Vichian scholars readily point out that the vindication of man as a fundamentally historical being constitutes Vico's unique contribution to the history of philosophical thinking. For the essence of the "nuova scienza" is "that the nature of man is not, as has long been supposed, static and unalterable or even unaltered; that it does not so much as contain even a central kernel or essence which remains identical through change; that men's own efforts to understand the world in which they find themselves and to adapt it to their needs, physical and spiritual, continuously transforms their world and themselves."<sup>1</sup> This distinctive philosophical vision could have arisen only from the identification of being and the historical process. It is therefore not without reason that Vico has been proclaimed the father of historicism.

That historicism emerged at the time of the Cartesian revolution is certainly not insignificant. Indeed the source of the "nuova scienza" was Vico's conviction that Cartesian rationalism was propounding a false conception of nature and thus (correlatively) a false conception of man and that it was therefore imperative to put an end to its advancement. For the historicization of man did not simply emerge from Vico's studies of history and jurisprudence but was engendered by an implicit ontological transformation

which was an immediate consequence of his attempt to replace Cartesian mechanism with his revised version of Stoic dynamism. And this transformation, i.e., the transformation of being as the changeless substratum of reality to being as becoming, ultimately manifests itself as the transformation of man as a "thinking substance" to man as an integrality, a complex and concrete evolutionary reality. Thus, though Vico, who was extraordinarily eclectic, certainly adopted some of Descartes' most basic conceptions, most notably the notion of "innate ideas", the "nuova scienza" is fundamentally an anti-Cartesian science of man.

It is thus the essential purpose of this work to demonstrate that the historicization of man emerged from Vico's criticism of the rational understanding of reality. We think this can be easily demonstrated by an analysis of Vico's cosmology -- an essentially Stoic science of the universe modified by the Judaeo-Christian doctrine of creation ex nihilo. Indeed we are confident that this analysis will not only substantiate our thesis but also demonstrate that the cosmology, which is usually ignored by Vichian scholars, is in fact the basis of Vico's anti-Cartesian historical science of man.

## I. The Cartesian Enterprise

All philosophers are aware of the Cartesian revolution and its philosophical consequences. The Cartesian conception of man as "a thing which thinks"<sup>2</sup> and the dissociation between "body" and "mind" which it firmly established left a fundamental problem concerning the unity of the person which is still at the centre of philosophical enquiry into the nature of man. But not all are familiar with the conceptual logic that led Descartes to

"substantialize" thinking. In the next few paragraphs we shall trace this logic (though not in great detail) to discover the reason why Descartes posited "pure thinking" as an independent reality. To accomplish this task, we must, as Vico would say, begin where the logic begins: we must begin with Cartesian physics.

The Cartesian universe was the mechanistic universe of the seventeenth century. In fact, The World, Descartes' physics, represents the first attempt to construct the entire universe on mechanistic foundations. In this work, Descartes conceived physical reality as an enormous mass of matter created by an act of God and conserved by God through a continuous action of creativity.<sup>3</sup> This mass of matter is conceived by Descartes as "a real, perfectly solid body, which uniformly fills the entire length, breadth, and depth of ... space".<sup>4</sup> Explicitly, Descartes' "matter" is not "that primary matter of the philosophers".<sup>5</sup> Rather, it is, purposely, a conception of matter appropriate for a new mathematically defined physics. For it was Descartes' aim to formulate a geometrical science of nature which would unite all the physical sciences in one mechanical explanatory structure.

What, then, is the fundamental difference between Descartes' conception of matter and the Aristotelian and scholastic concept of "primary matter"? In Aristotelian and scholastic physics, which was primarily concerned with the nature of particular physical things, "primary matter" served solely as the substratum of change, as a "substance" which does not itself possess any properties of any kind but was the principle of continuity in elemental change. On the contrary, Descartes' "matter" is not just a principle of substance, it is a substance, "a real, perfectly solid body". This substance, moreover, possesses one inherent

property, namely, extension or spatiality. "I conceive", writes Descartes, matter's "extension, or the property it has of occupying space, not as an accident; but as its true form and its essence."<sup>6</sup> Thus we have Descartes' conception of matter as "res extensa".

The identification of matter and extension is the fundamental principle of Cartesian physics. Extension alone constitutes the essence or the materiality of physical reality. Thus, by "nature", says Descartes, we must understand nothing other than "matter itself".<sup>7</sup> Nature, in other words, is solid extension. The physical universe is therefore finally open to a purely geometrical description.

But Descartes realised that extension alone was insufficient for a complete explanation of physical reality. Extension itself is lifeless and undifferentiated and thus cannot itself account for the tremendous diversity and variety present in the physical universe. Descartes therefore introduced into his physics a second factor, motion, which functions as a principle coequal to extension in the formation of the universe.

The Cartesian concept of motion was of course formulated specifically for a geometrically embodied universe. For Descartes motion is a mode of extension -- a quality which pertains strictly to its operation.<sup>8</sup> And what does Descartes mean by motion? He explicitly states that he can conceive of no motion other than local motion: "the motion by which bodies pass from one place to another and successively occupy all the spaces in between".<sup>9</sup> This concept of motion, which constitutes a fundamental departure from the Aristotelian and scholastic concept of motion as the process by which what is in potentiality is brought from latency to actuality, was certainly appropriate for the

explanation of motion in a plenum universe. Consequently it received little challenge from an intellectual community preoccupied with the search for mechanical explanations.

Though motion is a mode of extension, in the process of cosmic genesis it functions as the principle of diversification. For Descartes asserts that at the moment of creation God imposed motion on the initial mass of matter and, as a result, its solidity was broken up into innumerable ever-divisible pieces of matter. And all the particular physical bodies that constitute the totality of physical reality, such as, the stars, the sun, the planets, and even the human body, were formed out of these pieces of matter by means of local motion.<sup>10</sup> Had God not imposed motion on extension, physical reality would consist of nothing but a single, inert mass of matter. The origin of the universe, as it is described by Descartes, is, therefore, the result of the creation by God of matter and motion and of -- at the same time and by means of the same act -- the imposition of motion on matter.

Thus the ground of Cartesian physics is the interpretation of nature as pure matter in motion. The implications of this view of nature are quite clear. All physical bodies, including the bodies of living organisms, such as the human body, are derivations from the initial mass of solid matter. And the constitution of each of these bodies is the result of the motions imposed by God on this initial solid material mass. It follows, therefore, that all the physical properties associated with these bodies are ultimately reducible to a matter which is pure extension and local motion. What Descartes has given us, then, is a purely physical universe. To put it more scientifically, Descartes has constructed a plenum universe filled with contiguous bodies, a universe which is open to mechanical explanations.

But the Cartesian view of nature as pure matter in motion has another, a far more philosophically important, implication. As a living organism, man is a creature which thinks, feels, wills, and, in general, experiences. The physical universe, as described by Descartes, is, however, constituted by solid extension and local motion alone. Hence, the Cartesian universe does not admit subjectivity. In other words, "thinking", "feeling", "willing", and "experiencing" are not the kinds of properties that can be attributed to a substance which is solid extension and local motion. The locus of subjectivity cannot, therefore, be any physical organism as such. Not even the human body. Thus, within the structure of Cartesian physics, it is conceptually impossible for the locus of subjective experience to be in nature.

This conceptual impasse led Descartes to his epoch-making conclusion.<sup>11</sup> "From that", writes Descartes, "I knew that I was a substance the whole essence or nature of which is to think, and that for its existence there is no need of any place, nor does it depend on any material thing; so that this 'me', that is to say, the soul by which I am what I am, is entirely distinct from body".<sup>12</sup> Thus the locus of subjectivity became necessarily subjectivity per se -- or, to be precise, the individual human subjectivity per se -- which is defined by Descartes as "res cogitans". And this "thinking substance", which, as such, not only thinks but also feels, wills, and experiences,<sup>13</sup> is essentially autonomous relative to pure matter in motion.

For Descartes reality is thus constituted by two distinct, pure substances: "res extensa" and "res cogitans". Conceptually these substances have no common ground. The essence of matter is extension and its operation is local motion. The essence of the thinking

substance is thinking and its operation is thinking. Consequently, these mutually irreducible substances are completely independent of one another. Between "res extensa" and "res cogitans" there can therefore be no direct relationship.

This fundamental dissociation between body and mind did not, however, prevent Descartes from asserting that the "thinking substance" does in fact interact directly with physical reality. He was able to do this by positing God as the principle of mediation between body and mind. God not only created and continuously sustains physical reality, but he also created individual thinking substances, situated them within the pineal gland of human bodies, and endowed them with an inherent or "innate" capacity to interact with and understand physical reality. Thus for Descartes God is the fundamental condition for both the existence of body and mind and the applicability of the operations of the mind upon the physical universe. Without God Descartes is simply left with two mutually irreducible and independent substances and with no means of bridging this ontological distinction.

It is of great importance to underline the fact that the source of this body/mind dualism was Cartesian physics. By conceiving physical reality as pure matter in motion, Descartes was forced to conceive the locus of subjective experience as "pure thinking".<sup>14</sup> In other words, Descartes' conception of the locus of subjective experience as "pure thinking" was dependent on his prior conception of matter as solid extension and local motion.

This conceptual logic can, moreover, be extended to include Descartes' entire metaphysical enterprise.<sup>15</sup> For Descartes' metaphysics is an examination of reality from the



standpoint of this "thinking substance". It is the "thinking substance", with its innate ideas, seated within the pineal gland, that guides us through Descartes' famous methodological scepticism, through the assertion of the Cogito ergo sum as the first principle of philosophy, and through the affirmation of God as the guarantor of physical reality. Descartes' metaphysics is thus dependent on his conception of man as "res cogitans", which, in turn, is dependent on his prior conception of nature as "res extensa". Thus, in this sense, Descartes' physics determines his metaphysics.

We stress the importance of this conceptual logic not only because we are convinced that it is present in the Cartesian system but because we believe it is also present in the Vichian system. Indeed it manifests itself in two ways. Vico's rejection of the Cartesian conception of nature as pure matter in motion led necessarily to his rejection of the Cartesian conception of man as a "thinking substance". And Vico's own conception of nature, which emerged from his cosmological interpretation of Stoic dynamism, determined his unique conception of man. Moreover, these manifestations of the conceptual logic are intimately connected because the Vichian conception of nature was formulated explicitly as a replacement for the Cartesian conception of nature.

## II. An Analysis of Vico's Cosmology

The cosmology -- the theory of metaphysical points and conatus -- is the aspect of Vico's philosophical enterprise which is least known and most likely to be ignored.<sup>16</sup> Perhaps the principal reason for this neglect has been the stern indictment issued by the doyen of Vichian scholarship.

The idea of metaphysical points, writes Benedetto Croce, "was, no doubt, fantastic and arbitrary, and in consequence bound to remain undeveloped and without influence on Vico's other conceptions" and thus we "must deny all value to Vico's cosmology".<sup>17</sup>

Yet the cosmology, although undeveloped and obscure, is an impressive intellectual achievement. Attributed to a Zeno<sup>18</sup> who explained the origination of the many from the one by the hypothesis of indivisible metaphysical points, it is one of Vico's most creative and important theories. Explicitly formulated to replace the Cartesian conception of the universe, it specifies the metaphysical points, with their conatus, as the ground which unifies extension and motion and, thereby, generates an intrinsically dynamic universe. Even Croce acknowledges that "we cannot deny its dynamic nature as opposed to the mechanicism of contemporary [i.e., Cartesian] philosophy."<sup>19</sup> Perhaps, then, an examination of the cosmology will persuade those who share Croce's conviction, that the idea of metaphysical points is indeed an integral aspect of Vico's philosophical enterprise. For, unlike Croce, we believe that the cosmology is the source of Vico's conception of nature and thus (correlatively) of his conception of man and is therefore the ground of the "nuova scienza".

The point of departure of the cosmology was Vico's dissatisfaction with the Cartesian conception of matter as "res extensa". Cartesian physics, says Vico, "sets up in nature a principle falsely postulated: namely, body already formed".<sup>20</sup> Consequently, Descartes had fallen into error "in regards to the principles of motion and of the formation of the elements"<sup>21</sup> of the universe. And, Vico concludes, on the basis of this "false position"<sup>22</sup> Descartes constructed a system which could be acceptable only "to those who subject

the world to fate".<sup>23</sup> Unfortunately Vico does not provide a detailed explanation of why mechanism is a scientifically "false position". But as Vico's essentially Stoic physics<sup>24</sup> unfolds, his reason for rejecting Cartesian physics manifests itself clearly.

To understand fully the Vichian conception of the universe, and thus the reason why Vico rejected the Cartesian conception of the universe, we must begin our analysis of the cosmology with a brief account of the Stoic conception of the universe as a dynamic continuum. For the cosmology, as we have said, is essentially a Stoic cosmology modified by the Judaeo-Christian doctrine of creation ex nihilo.

#### 1. A Summary of Early Stoic Physics

The Stoics<sup>25</sup> conceived the universe as one, finite, continuous body, situated in an infinite void. They believed that the universe is composed of four, mutually transformable, elements: earth, water, air, and fire; each endowed with one inherent quality, earth being dry, water moist, air cold, and fire hot. They also believed that these four elements are bound firmly together into a single dynamic whole by an active all-pervading force called pneuma, the Greek word for "spirit" or "breath".<sup>26</sup> Thus for the Stoics the universe is an essentially physical and dynamic continuum.

The term pneuma first appeared in Greek physics as a synonym for air. The Greeks, recognising the fact that the living body depends upon its breathing and its internal thermic processes for its existence, naturally presumed air to be the active element, the pneuma, which permeates and

gives life to the body. In man, the principle of life, the soul, thus became identified with an essentially active substance, namely, air or breath. Anaximenes makes this identification explicit in one of his most famous fragment: "As our soul, being air, holds us together, so do breath and air surround the whole universe."<sup>27</sup>

The Stoics adopted the idea of pneuma from the pre-Socratics but expanded its composition from air to a mixture of air and fire which "embodied the characteristic quality of these two elements -- their activity -- in a more pronounced form."<sup>28</sup> The basis of this expansion was their belief that within the living body, air, which is cold, is "neutralized" by the warmth of the body, and that this "neutralization" makes the pneuma "a warm puff of breath", a mixture of cold and hot, of air and fire.<sup>29</sup> Moreover the "neutralization" of air brings to light the active role of the pneuma in the thermic processes of the living body. Respiration, for example, is a characteristic sign of life, a fact which substantiates the connection between pneuma and movement. The source of movement, as we shall see in a moment, is an inner tension (tonos) characteristic of air and of fire which enables them both to mix and, as a mixture, to interpenetrate and provide all organisms with substantiality and permanence. Thus in Stoic teaching the pneuma became the active element responsible for the existence of every living organism.

But the Stoics did not limit the activity of the pneuma to the realm of organic life. It was quite natural to suppose that the pneuma permeates the entire universe; hence they extended the dynamic functions of air and fire to embrace all natural phenomena, organic and inorganic. "Chryssippus' theory of mixture", writes Alexander Aphrodisiensis, "is as follows: he assumes that the whole

material world is unified by a pneuma which wholly pervades it, and by which the universe is made coherent and kept together and is made intercommunicating."<sup>30</sup> This power of making coherent is the most basic quality of the pneuma: it is the sign of its activity and that which makes it the all-permeating force which binds the universe into a dynamic unity.

The idea of pneuma as a cohesive force brought into prominence the contrast between the active nature of air and fire and the passive nature of earth and water. Galen informs us that

those who have most expounded the concept of the binding force, like the Stoics, distinguish this binding force from what is bound together by it. The substance of the pneuma is the binding agent, while the material substance is what is bound together by it. They therefore say that air and fire bind together, whereas earth and water are bound together.<sup>31</sup>

The power of making things cohesive is thus the exclusive property of the active elements. Air and fire, says Galen, "bind together themselves and everything else, whereas water and earth need something else to bind them together."<sup>32</sup> Thus without the active intervention of the pneuma, earth and water would simply disintegrate for they themselves do not possess the power of coherence.

What makes the pneuma a cohesive force is its most significant property: tension (tonos). Both air and fire possess an inner tension which endows them with cohesion: the property of being cohesive and making things cohesive.<sup>33</sup> According to Chrysippus it is this inner tension that distinguishes the active elements from the passive elements which have no tonos of their own -- earth and water acquire their cohesion only through their admixture.<sup>34</sup> And Plutarch

assures us that this is indeed what the Stoics believed:

The Stoics say that earth and water have no binding force of their own, nor can they bind other substances together. They maintain their unity by partaking of the power of pneuma and fire. Air and fire, on the other hand, through their inner tension and through being mixed with the other two, provide these with tension, permanence, and substantiality.<sup>35</sup>

The pneuma is thus endowed with tensional power and this power is what enables it to give "a certain definite shape to all physical phenomena."<sup>36</sup> Indeed, since pneuma permeates the entire universe, the "pneuma-like tonos"<sup>37</sup> makes the universe into a cohesive and dynamic unity.

This other function of the pneuma -- giving a specific character to all the substances in the universe -- accounts for the endless diversity present in the universe. Chrysippus makes this explicit in the following passage.

The structure of matter is simply air, for bodies are bound together by air. Likewise all that is bound together in a material structure derives its quality from the binding air which in iron is called hardness, in stone thickness, and in silver whiteness. Passive and motionless matter is the substratum of the qualities, while these qualities are pneumata and aerial tensions inherent<sup>38</sup> in the parts of matter and determining their form.

The pneuma is thus responsible for the transformation of shapeless and undifferentiated matter into a substance with definite physical attributes. And the quality of these attributes is determined by the composition of the pneuma: "the form of the primordial matter", writes Galen, "comes about through the mixture of the airy and fiery substances in suitable proportions."<sup>39</sup> Thus pneuma permeates the whole universe and makes it into a dynamic unity and yet its composite nature is the source of the endless diversity

which characterizes the universe.

Now according to the Stoics the elements which constitute the universe -- earth, water, air and fire -- are all corporeal: for all are spatially extended and all are capable of either acting or being acted upon.<sup>40</sup> Whatever lacks these characteristics (the void, for example) is both incorporeal and non-existent. This means that everything real in the universe, including the soul, which is composed of pneuma (air and fire), is corporeal. Indeed the universe itself, being composed of corporeal elements, is corporeal. And since all the things in the universe are bound firmly together by the pneuma, the universe is a dynamic continuum.

It is of great importance to emphasize that, although the Stoics believed in the corporeal nature of the pneuma, they regarded it not as matter but as force. We see this clearly in their identification of pneuma and God.

The idea of the existence of forces continuous in space and time merged in Stoic doctrine with the conception of the ever-present and all-permeating Deity.

Pneuma became a concept synonymous with God, and either notion was defined by the other. On the one hand, natural force (i.e., pneuma) was seen as endowed with divine reason, and pneuma was given epithets like "sensible" or "intellectual", thus alluding to its god-like nature. On the other hand, God was identified with the all-penetrating pneuma, being totally mixed with shapeless matter, and divine reason was defined as corporeal pneuma.<sup>41</sup>

Thus for the Stoics God is a natural force endowed with divine reason. Moreover the substance of God is the whole universe,<sup>42</sup> and God is, therefore, the soul and nature of all ordered existence.<sup>43</sup> In other words, God is the universe and the universal diffusion of its soul.<sup>44</sup>

This understanding of pneuma and of God as two aspects of the same dynamic principle reveals the essence of the Stoic conception of the universe. For them the universe "is formed and ruled by forces which activate matter in a similar way to the activation of the living body by the soul."<sup>45</sup> Thus the pneuma was seen as a divine power or "world soul" which manifests itself as the active element in the universe: the cohesive all-pervading agent which permeates matter, gives rise to physical phenomena, and binds the universe into a dynamic unity.

It is also important to note that the Stoic conception of the universe was formulated in explicit opposition to the first atomic conception of the universe. Both theories were based on two fundamental conceptual entities: the atomic theory on atoms and the void, and the continuum theory on unformed matter and the pneuma. But whereas the atomists postulated the total separation of the atoms and the void; the Stoics, as we have seen, postulated the total mixture of the unformed matter and the pneuma. Thus for the atomists the physical structure of a body is a "complete plenum";<sup>46</sup> whereas for the Stoics it is a composition corresponding to the specific mixture of unformed matter and pneuma. Thus atomic bodies, being in a universe devoid of forces, interact only by direct contact or local motion; whereas the inner tension characteristic of compound bodies makes them dynamic entities. Thus what distinguishes the continuum theory from the atomic theory of the universe is the basic assumption of continuous forces within the universe which make the universe and everything in the universe dynamic. This was the distinctive contribution of the Stoics to the Greek understanding of the universe.

As we now proceed to an analysis of Vico's physics, we shall see that the Stoics also made a distinctive



contribution to the Vichian understanding of the universe. For Vico, as we have indicated,<sup>47</sup> believed that there was no substantial difference between the physics of the Stoics and the physics of Plato, and thus did not hesitate to incorporate some of their basic conceptions (though clearly modified by his own basic Judaeo-Christian presuppositions) into the conceptual structure of his own physics. Indeed, we need not hesitate to proclaim that Vico's physics, despite what he himself declared, is much more of a Stoic than a Platonic or neoplatonic physics.

## 2. Vico's Physicus

The theory of metaphysical points was formulated to provide insight into the mystery of the creation of the universe and not merely to render the physical effects of this creation intelligible. What enabled Vico to penetrate this mystery was the mathematical method. The geometrical point has no length, breadth, or form and yet is the origin of lines, surfaces, and figures. The arithmetical one is not number and yet can be infinitely multiplied. There can be, says Vico, only one reason for this.

Geometry has in fact derived from metaphysics the virtue of extension, and this, the virtue of extension itself, is prior to the thing extended, and is thus unextended. In this way arithmetic derived from metaphysics the virtue of number; that is, the unit, that which, being the virtue of number, is not number. Thus, as the one, which is not number, generates number, the point, which is not extended, produces extension.<sup>48</sup>

It follows, therefore, that there must be in the intelligible world of metaphysics "some kind of virtue indivisible of extension"<sup>49</sup> which gives geometry and

arithmetic their truth. And thus it is legitimate to postulate "points", not geometrical but metaphysical, with the "virtue indivisible of extension", which, although unextended, generate extension.

The metaphysical points grasped through the conception of the geometrical point and the arithmetical one are the key to understanding divine creation. Vico makes this explicit in his definitive cosmological statement.

In nature there are extended things; prior to every nature there is a reality which refuses every extension, namely, God. Between God and extended things there is, therefore, an intermediate reality, not itself extended, but with the capacity of extension -- the metaphysical points.<sup>50</sup>

Vico thus thought, like Plato, that an intermediate reality constituted by metaphysical entities lay between physical reality and its creator. But, unlike Plato,<sup>51</sup> he thought that these entities were endowed with "the capacity to produce extension"<sup>52</sup> and thus actually generated physical reality.

The metaphysical points, which constitute this intermediate reality, are described by Vico as the prima materia of divine creation. Vico conceived prima materia as "the virtue of extension".<sup>53</sup> By "virtue" Vico means "the effort of all things, that which sends out and sustains every particular thing".<sup>54</sup> Vico also refers to virtue explicitly in terms of "potency" and "potentiality". The phrase "virtu o potenza di estensione e di moto",<sup>55</sup> for example, indicates that for Vico "virtue" and "potential" are interchangeable or convertible terms. Thus prima materia is "the virtue or potential of extension" in the process of cosmic genesis.

Clearly, then, prima materia, as conceived by Vico, has two distinct, though not unrelated, meanings. In one sense, prima materia is "that which sends out every particular thing" -- it is physical reality in "potential". And, in another sense, prima materia is "that which sustains every particular thing" -- it is the "substratum" of physical reality. The metaphysical point, writes Vico, is "that indefinite virtue by means of which bodies extend themselves and is the equal substratum of unequal extension".<sup>56</sup> Moreover it is "because the metaphysical point is the indefinite virtue of extension [that it] sustains equally unequal extensions".<sup>57</sup>

As "virtues" or "potentialities", the metaphysical points are "the principles of things"<sup>58</sup> in the process of cosmic genesis. They are "principles" in the sense that they are the "origins" of all the particular physical things that constitute the totality of physical reality.<sup>59</sup> They are, as such, prior to and fundamentally different from the things of which they are the virtues or potentialities. For "the virtue of extension itself", says Vico, "is prior to the thing extended, and is thus unextended".<sup>60</sup> The virtue or potentiality of real extension, as that of mathematical extension, is thus an antecedent, unextended, and indivisible metaphysical point.

As the "substratum" of physical reality, prima materia is described by Vico as "substance". Vico expressed his notion of substance briefly and concisely.

Substance in general, I say, is that which stands under and sustains things, indivisible in itself and divided in the things it sustains; and under divided things, although unequal, it stands there equally.<sup>61</sup>

Clearly, by substance Vico does not understand some kind of independent entity but something relative to what it stands under and sustains. Only "God is substance by essence, created things are substances solely by participation".<sup>62</sup> Thus the metaphysical points are substances only in the sense that they stand under and sustain particular physical things as the grounds of their existence and permanence.

As the prima materia of divine creation, the metaphysical points are thus the sources and grounds of extended things. They are, as such, the matter of things, as distinguished from their form, which they receive directly from God.<sup>63</sup> Though the metaphysical points are matter in this sense, they do not possess any of the properties associated with ordinary matter. In reality, they are spiritual potencies of God -- mere acts and effects of Divine Reason. For "prima materia is the virtue of extension, and in God, maker of matter, corresponds to purest thought";<sup>64</sup> and therefore "in God is eminently contained the virtue of extension".<sup>65</sup> Thus, unlike geometrical points, which are mere abstractions, metaphysical points, being the spiritual potencies of divine creativity, are real in themselves and are the real elements of the real universe.

Obviously the metaphysical points are not the unformed corporeal elements of Zeno and of Chrysippus. We must remember, however, that Vico, a devout Catholic, formulated his conception of the universe on the basis of the doctrine of creation ex nihilo. The fundamental constituent elements of a universe created ex nihilo must of course necessarily be immaterial. Thus Vico naturally postulated metaphysical points rather than unformed corporeal elements as the fundamental constituent elements of the universe. Consequently, in regards to the ultimate nature of the

universe, there is a fundamental difference between the Stoic and the Vichian conception of the universe: whereas the Stoic universe is essentially material, the Vichian universe is essentially immaterial. And this clearly will also be a fundamental difference between the Vichian and the Cartesian conception of the universe.

But this fundamental difference between Stoic and Vichian physics does not detract from the Stoics' contribution to the Vichian understanding of the universe. For Vico thought that the metaphysical points possessed a certain metaphysical property -- namely, conatus -- which makes them intrinsically dynamic. And since the constituent elements of the universe are intrinsically dynamic, the universe itself is intrinsically dynamic. Thus Vico obviously believed, as did the Stoics, that man lives in an essentially dynamic universe.

Vico explained the conceptualisation of conatus -- the active element in the universe -- in the following passage:

Above all, it becomes the perfect simplicity of divine omnipotence to have created a matter which has simultaneously the virtue of extension and of motion than to have created by two operations matter and motion. What persuades us, then, is a divine metaphysics: conatus is not a certain thing, but something of some thing; that is, a mode of matter, which of necessity has its origin in the creative act from which matter originates.<sup>66</sup>

Vico thus conceived conatus as "the virtue of motion"<sup>67</sup> which is "a mode of matter" and which necessarily "has its origin in the creative act from which matter originates".

As "the virtue of motion", conatus is an effort of movement which is itself immobile, and which, where itself

equal, may engender unequal motions. Thus, as the virtue of extension is an antecedent, unextended, and indivisible punctum, the virtue of motion is an antecedent momentum which generates motion but is itself motionless. Thus, as the metaphysical points are the equal substratum of unequal extension, conatus is "the equal substratum of unequal motion".<sup>68</sup> And, finally, as prima materia, the virtue of extension, in God, maker of matter, corresponds to purest thought, so conatus, the virtue of motion, "in God, author of conatus, corresponds to rest".<sup>69</sup>

Though the phrase "conatus is a mode of matter" is somewhat ambiguous, its ambiguity is more apparent than real. As we have noted, Vico calls the metaphysical points the matter of physical reality. In the above passage, then, "matter" refers to the metaphysical points as the matter or materiality of physical reality. Thus the phrase "conatus is a mode of matter" can be easily translated to "conatus is an endowment of the metaphysical points".<sup>70</sup> Both statements indicate that conatus is a property of the prima materia of divine creation.

As "an endowment of the metaphysical points", conatus is an effort or an energizing in virtue of which the metaphysical points generate motion.

What Vico means by this, we think, is not just that the metaphysical points are endowed with the capacity to generate motion but that by generating motion the metaphysical points actually unfold themselves. This energizing, in other words, effects the generation of real extension and of real motion. Thus conatus is, in a fundamental sense, the unfolding of the prima materia of divine creation. For how are we, otherwise, to understand Vico's interpretation of conatus as natura in fieri?

Physics is also worthwhile: from the moment that nature exists, or as the School would say, "in factio esse", all things move. Before nature could have existed all things were at rest in God; nature therefore began to exist in conatus: that is, in the language of the School, conatus is "natura in fieri".<sup>71</sup>

The transition from prima materia -- "the virtue indivisible of extension and of motion"<sup>72</sup> -- to physical reality -- real extension and real motion -- is therefore effected by the conatus of the metaphysical points.

Finally, it is not insignificant that the metaphysical points and conatus have their origins in the same act of creation. Vico's etymological enquiry reveals that for the ancient Italians punctum and momentum were identical terms. It follows, therefore, that the virtue of extension and the virtue of motion are also identical.<sup>73</sup> This identity is not, however, a literal identity because conatus is a property of the metaphysical points. Rather, the virtue of extension and the virtue of motion are identical in the sense that they have the same origin. For does not extension occur only through motion? And they are, as one, that "virtue indivisible of extension and of motion",<sup>74</sup> that "indivisible virtue that possesses indefinite efficacy"<sup>75</sup> -- namely, the prima materia of divine creation.

Thus the metaphysical points and conatus are "the forces by means of which things come into real existence out of nothing".<sup>76</sup> They are not material substances but spiritual virtues or potentialities created by God. They are the centres of force by means of which God created the universe.

As we can see, conatus serves the same principal function in Vichian physics as pneuma serves in Stoic physics: it is the principle of motion or activity. But it

clearly is a very different concept. The pneuma is an active corporeal substance which manifests itself as a cohesive force, whereas conatus is a metaphysical force which manifests itself as unfolding or becoming. Moreover, unlike pneuma, conatus is not a thing in itself but a property of the metaphysical points (like tonos is a property of the pneuma). Yet both pneuma and conatus are conceived as the force within the universe which makes the universe essentially dynamic.

Clearly the fundamental difference between the Stoic conception of pneuma and the Vichian conception of conatus is one of presupposition. The Stoics formulated their physics on the basis of the idea that the universe and its contents arose from or evolved out of its primordial material elements -- namely, earth, water, air, and fire. Vico, on the contrary, formulated his physics on the basis of the idea of creation ex nihilo. Consequently his fundamental cosmological problem was to provide an explanation of the generation of material reality from its primordial immaterial elements -- i.e., metaphysical points -- and not simply an explanation of the formation of the universe. Hence the active element in the process of cosmic genesis necessarily had to be a generative force and not a cohesive force -- conatus and not pneuma.

Thus the source of the difference between Stoic and Vichian physics was Vico's conviction that God created the universe ex nihilo and that man therefore lives in an essentially immaterial universe. But Vico also believed that the universe is essentially dynamic and this belief was clearly inspired by the Stoics. For their doctrine of the pneuma was the basis of the idea of metaphysical points and conatus.



What Vico's theory of metaphysical points explains is the origin of the universe. Unfortunately, it is laconic, even puzzling, in its description of the constitution of physical reality. We must, therefore, be content with a brief discussion of only a few of its implications.

It is, we think, of great importance to bear in mind that Vico does not deny that the universe is extended and moved. "In nature", writes Vico, "there are extended things".<sup>77</sup> And, he adds, a few sentences later, "extended bodies move".<sup>78</sup> What Vico denies is that the universe is extension and motion. And this denial, of course, constitutes a rejection of the Cartesian view of the universe.

The source and ground of physical reality is prima materia: the virtue indivisible of extension and of motion. Since prima materia "has simultaneously the virtue of extension and of motion",<sup>79</sup> it cannot but engender things which are extended and which move. Within this conceptual structure, however, a particular physical thing is not a passive Cartesian "res extensa" -- a pure extended substance which has motion imposed on it from without. Rather, it is, we might say, an active "natura extendiens"<sup>80</sup> -- a matter which, like its source and ground, is endowed with the capacity to extend and to move itself. The fundamental difference between "res extensa" and "natura extendiens" is the fundamental difference between Cartesian and Vichian physics.

What Vico proposed, explicitly in contrast to Descartes' "res extensa", is a matter which, being composed of "points" of potentiality and of force, is intrinsically dynamic. Vico expressed his conception of matter and its implication as follows:

matter is potential and force; bodies, for this reason, are composed of a matter which in every point and in every instant is itself force.<sup>81</sup>

For Vico, then, matter is not extension or spatiality but "potential and force" -- not "extended substance" but "extending nature". In other words, Vico's "matter" is not an "already formed" substance but a "nature" which, by its constant activity-of-extending, that is, by its continuous force or motion, unfolds and develops its potential. Physical bodies, which form according to the countless patterns into which these "points" arrange themselves, are, therefore, not ready-made substances but natures which form and develop in space and time. And since physical bodies "are composed of a matter which in every point and in every instant is itself force", that is to say, of a matter which is in perpetual motion, they are in essence ever-evolving natures.

The immediate and most important philosophical consequence of the conception of matter as "natura extendiens" is the conception of nature as "process". Since matter "in every point and in every instant is itself force", for Vico "nature" clearly is not "pure matter" or "pure matter in motion" but "motion". Vico makes this explicit in the following passage:

nature is motion; its principle of movement is conatus, that indefinite virtue produced by that infinite mind which is itself rest -- God.<sup>82</sup>

But what does Vico mean by motion? Since conatus is natura in fieri,<sup>83</sup> motion is the process of becoming. In other words, motion is, as Aristotle would say, the process by means of which what is in potentiality becomes actualized.<sup>84</sup> Hence, nature, in Vichian terms, is the unfolding and development of all potentiality. Nature is thus the process of becoming.

Now in nature all bodies are compound and all compound things are in constant motion, either composing or decomposing. All bodies are composed of matter -- potential and force -- and form -- anima. The anima (the soul), which is described by Vico as the "air" which God breathed into his creation at the moment of conception, is the principle of life.<sup>85</sup> All bodies are, therefore, "living organisms". And, as "living organisms", all bodies go through the process of life: birth, development, maturity, decay, and death.<sup>86</sup>

Since all bodies are in constant motion, there is nowhere rest in the universe. No body is in the same place or in the same relation of space and time for more than an instant. And since motion is intrinsic, there is no transference of motion between bodies. Nor does one body effect the motion of another. The quantity of motion is always constant; only its form changes. Pleasure and pain, for example, are simply different motions. And, finally, since all bodies are compound, all motions are complex. Nowhere in the universe is there simple motion or motion in a straight line. Like the process of life itself, all motion is circular.<sup>87</sup> For all motion is born of conatus and nature is, therefore, intrinsically dynamic.

Thus we have the Vichian doctrine of metaphysical points, both as a theory of creation and as an explanation of physical reality. Though laconic in detail, it clearly demonstrates that Vico envisioned reality as a whole as an intrinsically dynamic process emanating from and revolving around God. Vico himself affirms this to be true.

It is true that perfect proportion, or the proportions between these things which we are treating, has but one source -- God. On one side we have rest, conatus, and motion; on the other,

we have God, matter, and extended body. God, the mover of all things, is in himself rest; matter completes conatus; the extended bodies move: and motion is a mode of the body; rest is an attribute of God; and conatus is an endowment of the metaphysical points. And because the metaphysical point is the indefinite virtue of extension it sustains equally unequal extensions; while conatus is the indefinite virtue of motion which unfolds equally unequal motions.

Thus at the centre of reality is God -- the Absolute Being -- in perfect rest. Within reality are compound entities -- mere effects -- in perpetual motion. And in between God and his creation are the metaphysical points -- modes of being -- in a state of effort which effects the transition from rest to motion, from ideality to reality, from potentiality to actuality.

Clearly, then, it is the notion of "dynamism" that constitutes the fundamental difference between Cartesian and Vichian physics -- just as it constituted the fundamental difference between atomic and Stoic physics. Cartesian "matter", conceived as "res extensa", a "pure substance", is incapable of evolution. It is subject to neither genesis nor to development. It therefore necessarily gave rise to a mechanistic conception of nature. On the contrary, Vichian "matter", conceived as "natura extendiens", an "extending nature", comes to be and develops in space and time. Being intrinsically dynamic, it is necessarily subject both to genesis and to development. It therefore necessarily gave rise to a teleological conception of nature. For nature, in Vichian terms, is not pure matter in motion but the actualization of potentiality.

The theory of metaphysical points not only enabled Vico to effect the transition from a mechanistic to a teleological view of nature, it also enabled him to avoid

understanding of reality.

It is obviously also the reason why Vico found Cartesian physics unacceptable. The universe, as conceived by Descartes, is an enormous machine constituted by two irreducible and independent substances: pure matter, which is in itself absolutely static; and pure mind, which, since it is not in nature, is subject neither to genesis nor to development. Thus Cartesian physics did not, indeed could not, recognize the evolutionary nature of man. Hence, in Vichian terms, the Cartesian understanding of reality was simply a false understanding of reality.

It is beyond question that in Vichian terms the Cartesian conception of man as "pure thinking" is thus a false conception of man. For Descartes simply failed to recognize that in reality man is a creature that comes to be and develops in space and time.

Writing of Cartesianism in his autobiography, Vico made the source of his dissatisfaction with the Cartesian conception of man explicit. "In respect of the unity of its parts the philosophy of Descartes", writes Vico, "is not at all a consistent system; for his physics calls for a metaphysics that should set up a single kind of substance, the corporeal, operating, as we have said, by necessity."<sup>89</sup> But, of course, Descartes found it necessary to be "inconsistent". As a result, says Vico, "the anatomists do not find the Cartesian man in nature."<sup>90</sup> Clearly, what Vico found objectionable was Cartesian dualism. He obviously thought that instead of having postulated a "real" distinction between "body" and "mind", Descartes should have propounded some sort of physical monism which would have maintained the fundamental unity of reality. This is not to say that Vico would have accepted physical monism as the

"true" representation of reality, but only that he simply could not accept the extirpation of man from nature.

Cartesian man is, indeed, not in nature. Descartes, having conceived nature as pure matter in motion, was forced to conceive man as "pure thinking". "I am", writes Descartes, "not more than a thing which thinks, that is to say a mind or a soul, or an understanding, or a reason....I am, however, a real thing and really exist; but what thing? I have answered: a thing which thinks."<sup>91</sup> As "a thing which thinks", man is not confined within a material self; nor is he dependent upon physical reality for his existence. On the contrary, man is autonomous relative to physical reality, and is thus not an integral aspect of nature and its processes.

Vico, however, believed that in reality man is in nature. And Vichian physics naturally reflects this conviction. For within the structure of Vichian physics no "real" distinction is drawn between "body" and "mind", and nature is therefore conceived as a dynamic process constituted by dynamic organisms whose number includes human organisms. Thus Vichian physics does not necessitate the extirpation of man from nature, and therefore the anatomists do find the Vichian man in nature. Hence, Vichian metaphysics, unlike Cartesian metaphysics, is able to reflect the fundamental unity of reality.

It is therefore certain that the Cartesian and the Vichian conception of man will be fundamentally different. Indeed Vico makes this explicit in the De antiquissima. In reference to the assertion of the Cogito ergo sum as the first philosophical principle, Vico offers the following critical remarks.

"But I who think am mind and body, and if thought were the cause of my being, it would be the cause of body. However, there are bodies which do not think. Thus I think, rather, because I consist of body and mind. Body and mind united are therefore the cause of thought, for were I solely body I would not think, but were I solely mind I would understand. Thinking is not, indeed, the cause of my being mind, but a sign of it, and a sign is not a cause."<sup>92</sup>

The emphasis on causality, as in the last sentence of this passage, "Thinking is not, indeed, the cause of my being mind, but a sign of it, and a sign is not a cause", is designed to make the reader reserve judgment regarding the epistemological status of "intuition". But what is of importance for our immediate purpose is Vico's denial that man is "pure thinking", which is the very *raison d'etre* of this passage.

Actually this passage contains both the rejection of the Cartesian conception of man and the initial statement of the Vichian conception of man. Having rejected the Cartesian conception of nature as pure matter in motion, Vico was certainly not compelled to accept the conception of man as a "thinking substance". Thus in response to Descartes' ontological assertion that man is "a thing which thinks", Vico insists that man, although endowed with the capacity to think, is not himself "pure thinking": "I who think am mind and body". Obviously Vico thought that man cannot be understood solely in terms of "thinking" because "thinking" is only a human capacity and therefore does not represent man in his proper being as man. "I think", says Vico, "because I consist of body and mind"; not because, he might have added, "I am mind". Hence, for Vico man is not "a thing which thinks".

If man cannot be understood in terms of "pure thinking", then in what terms can he be understood? Vico's

answer to this question, which leaves very little room for doubt regarding the Vichian conception of man, is contained in his own ontological assertion: "I consist of body and mind". This assertion implies that man must be understood in terms of integrality -- not as pure intellect, not as sheer rationality, but as body and mind. Man is composed of body and mind and thus must be understood in terms of body and mind. Moreover, this notion of integrality is later extended to include another integral aspect of man, namely, spirit. Hence, man must be understood in terms of body, mind, and spirit. At the same time, Vico, is, of course, asserting that man is an integrality -- not "a thing which thinks" but "a thing with a body and a mind and a spirit".

As the Cartesian conception of man has its source in Cartesian physics, so the Vichian conception of man has its source in Vichian physics. In the physics, Vico ascribes to man three fundamental principles: the principle of life, the principle of sensitivity, and the principle of thought -- the anima, the animus, and the mens.<sup>93</sup> These three, distinctively Aristotelian, principles are the three aspects of the soul -- the anima itself -- which Vico, as we have said, identified with the "air" which God breathed into his creation at the moment of conception.

The anima, in its guise as the principle of life, is described in purely material and organic terms. For Vico life is simply the motion of blood and vital spirits produced by the air in the heart of and arteries of organisms.<sup>94</sup> The air is the vehicle of life because inhaled and exhaled it moves the heart and the arteries, and within these, the blood and the vital spirits, whose movements sustain life. Thus man is a "living organism". And, like all living organisms, man is, in a very basic sense, a being concerned primarily with self-preservation, striving always



for nourishment and uninterrupted continuance.<sup>95</sup>

The animus is an internal principle of movement. Operating through the animal spirits, which move more rapidly than the vital spirits, it is, thereby, able to some extent to exercise control over the physical organism itself.<sup>96</sup> The animus thus moves freely and is therefore considered to be the seat of the "spirit" or the "free will" of man.<sup>97</sup> Moreover, all emotions or feelings proceed from the voluntary movements of the animus, that is to say, from a spirit or a will that is free. Thus the animus is the source of all internal activity; it is the power which generates sensitivity.

The mens is the faculty of reflective thought. For Vico, as for Aristotle, the mens is essentially an active principle of intellection.<sup>98</sup> More specifically, it is, like St. Thomas Aquinas' agent intellect, "an active immaterial force able to assimilate other things to itself":<sup>99</sup> it is, in a sense, the intellectual conatus of human nature. It is thus, like the active intellect of the Aristotelians, the "god" within man which enables him to transcend the confines of his material self by regulating and directing his passions and appetites. At the same time, the mens is the power which makes man a participant in Divine Reason, liberates him from the fetters of matter, and endows him with immortality.

The rest of the animal genus have no higher principle than the anima. The brutes have neither a free will nor an active intelligence. Unlike man, they are mortal organisms which simply respond only to the immediate stimuli of their environment.

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Thus what distinguishes man from the rest of the animal genus is his complexity. Man is not merely a "living organism"; he is a "living organism" with a mind and a spirit. Man is not merely an organic structure consisting of blood, spirits, arteries, and a number of vital organs; he is an organic structure endowed with the capacity to think and the capacity to act freely. This complexity is what makes man unique and his uniqueness is what makes him the chosen guardian of the universe.

Thus the scholastic notion of integrality constitutes an appropriate categorization of Vichian man. For Vico obviously understands man not as solely body, or as solely mind, or as solely spirit, but as body, mind, and spirit. Hence, for Vico, man is a unified and complex reality -- "a thing with a body and a mind and a spirit".

It is of great importance to emphasize, lest one think that Vico abandoned the conception of man as an integrality in his mature years, that Vico never refers to man in terms of either "mind" or "spirit". Whenever Vico refers to man, which is not often, he always does so in terms of integrality. In fact, the notion of integrality is present not only in the De antiquissima, Vico's earliest philosophical treatise, but also in the Scienza Nuova, the last and greatest of his works.

The word "man" itself is abstract, comprehending as in a philosophic genus the body and all its parts, the mind and all its faculties, the spirit and all its dispositions.<sup>100</sup>

The notion of integrality is thus an integral aspect of Vichian metaphysics, both in its nascent and in its fully developed form. There is therefore no basis whatsoever for claiming that Vico propounded an idealist conception of man.

Vico obviously understood man neither in terms of "mind" nor in terms of "spirit". For Vico man, in his proper being as man, consists of body, mind, and spirit. It is thus beyond question that in Vichian terms man is an integrality -- a unified and complex reality.

The conceptual logic that led Vico to conceive man as an integrality manifests itself clearly. The Vichian universe, being composed of points of potentiality and of force (matter) and imbued with anima (form), is forever in the process of becoming. Within this universe, all bodies, including human bodies, are therefore composed of points of potentiality and of force, are imbued with anima, and are forever in the process of becoming. Hence, because Vico conceived matter as potential and force, nature was necessarily conceived as the process of becoming. And because matter was conceived as potential and force and nature was conceived as the process of becoming, man was necessarily conceived as an integrality in the process of becoming. Thus the conceptual structure of Vichian physics determined the conception of man as an integrality which is in nature and which, therefore, is subject both to genesis and to development.

Vico informs us that the process of becoming is comparable to the development of a seed, which engenders from itself the material out of which the roots, the stem, and the leaves of a plant are fashioned. The ancient sages of Italy, says Vico, thought that

species, or particular things, were representations modelled on these forms...I am referring to metaphysical forms, which are as different from physical forms [particular things] as is the form used by a modeller from that of a seed. For the form which the modeller uses remains identical while it is being employed as a

model, and is always more perfect than the thing formed from it. But the form of a seed changes and becomes more complete as the seed develops each day.<sup>101</sup>

Thus an acorn, for example, unfolds and develops into an oak tree. And, likewise, a human embryo unfolds and develops into a mature human being. Vico is thus in agreement with Aristotle -- the process of becoming is the actualization of what is in potentiality.

To say that a thing is in the process of becoming is therefore equivalent to saying that it comes to be and develops in space and time. The immediate philosophical consequence of this assertion is the interpretation of natura or essence as nascimento or genesis. Vico introduces this interpretation of natura or essence in Elements XIV and XV of the Scienza Nuova:

The nature of institutions is nothing but their coming into being (nascimento) at certain times and in certain guises. Whenever the time and guise are thus and so, such and not otherwise are the institutions that come into being.

The inseparable properties of institutions must be due to the modification or guise with which they are born. By these properties we may therefore verify that the nature or birth (natura or nascimento) was thus and not otherwise.<sup>102</sup>

These axioms express an intimate relationship between the conditions under which things arise (i.e., the times and modifications or guises of their origins) and their natures. Time and modifications are presented as the conditions of things which determine their natures. Things have a certain nature (are 'thus and so') because they arise at certain times and with certain modifications or guises. Thus a thing's nature is its genesis: its "coming into being at certain times and in certain guises". We are therefore able

to know what a thing is as a thing by knowing how it came to be what it is: knowledge of a thing is knowledge of its genesis.

The relationship between natura and nascimento also affects man. Since the nature of something is its birth, man's nature is his birth "in certain times and in certain guises". Thus man's nature is to be understood by understanding his birth: the mode of his development out of his origins. We are therefore able to know what man is as man by knowing how he came to be what he is: knowledge of man is knowledge of man's genesis.

The interpretation of natura as nascimento clearly centres attention on history. For Vico genesis and history are convertible terms. To know something by knowing its genesis, its origin and development, is to know it by knowing its history; hence nascimento is history. And since nascimento is natura, natura is history. Thus in Vichian terms a thing's nature is its history: its origin and development in space and time. The identification of natura and nascimento is thus the identification of being and the historical process.

That Vichian man is an historical being can perhaps best be demonstrated by reference to Vico's account of the history of natural law and his criticism of the classical theories of natural law. The natural law theorists advanced a rationalist account of man's nature and of natural law. Their analysis of natural law, which was centred on the notion of natural equity, was based on the assumption that man is a rational being capable of grasping eternal truths. They also assumed that man had always had this rational capacity and that natural law had always rested on an appreciation of eternal truths. Vico responded to their

We can now clearly state the fundamental difference between the Cartesian and the Vichian conception of man. Cartesian man is a "thinking substance" -- pure mind as opposed to pure matter. As "a thing which thinks", man is not confined within a material self and is therefore not in physical reality. Vichian man is an integrality -- "a thing with a body and a mind and a spirit". As an integrality, man is not only in nature but is an integral aspect of nature and its processes. Vichian man is thus, unlike Cartesian man, a unified and complex entity which comes to be and develops in space and time. And because he is in nature, and is therefore subject both to genesis and to development, he is not a rational being but an historical being.

The historicization of man thus emerged directly from Vichian physics. By interpreting conatus as natura in fieri, Vico discovered the metaphysical significance of "origins" and identified reality with process and, thereby, reduced being to becoming. The process of becoming is an historical process because all movement is generative: all movement is a coming into being and an unfolding of potentiality. Man is thus an historical being and is to be understood by understanding his history. A "true" science of man must therefore be an historical science of man. The "nuova scienza" was designed to be this "true" science of man.

We must therefore reject Croce's claim that the theory of metaphysical points remained without influence on Vico's mature philosophy. There is no fundamental difference between a physics that attempts to explain the origin and development of physical phenomena and a metaphysics that attempts to explain the origin and development of humanity. Both are based on the same fundamental presupposition:

things come to be and develop in space and time. Both have as their ground a conceptual structure constituted by the notion of "origins" and its categories, "genesis" and "process". And both are historical sciences. But this is not surprising. For, as we have shown, Vico's understanding of man was dependent upon his understanding of the universe.

This is not to say that Vichian physics is not, as Croce believed, undeveloped and obscure. It certainly leaves many unanswered questions. Perhaps the most important of these concerns the nature of material reality. Vico does not deny that bodies are material, but the theory of metaphysical points leaves some doubt regarding the materiality of material things. Vico asserts that the metaphysical points are the "matter" of things, as distinguished from their "forms", which they in no way account for. But the metaphysical points themselves are not material. This makes it very difficult to imagine in what sense bodies are actually material. They are extended and their extension is "real" extension. Yet the notion of matter as "potential and force" connotes not solidity but sheer energy, not extension but extending. When we refer to bodies, are we, then, referring to solid objects? Or are we referring to immaterial objects which have some sort of form? Moreover, if matter is ultimately immaterial, as the theory of metaphysical points seems to suggest, then nature is ultimately immaterial. And if nature is immaterial, then man is ultimately immaterial. This would, of course, undermine Vico's conviction that man is an integrality. The ambiguity concerning the nature of matter thus raises fundamental questions about the very foundation of the Vichian understanding of reality.

Despite these concerns, there can be no question about the nature of Vico's vision of reality. In explicit

contrast to Cartesian mechanism, Vico envisioned the whole of reality as an intrinsically dynamic movement from potentiality to actuality. And within this process is found an intrinsically dynamic being endowed with the capacity to make his own civil world -- man. To understand this universe and this being, it is therefore imperative to incorporate their ontogenetic nature in the structure of scientific thinking -- it is necessary to historicize thinking. The movement from the Cartesian to the Vichian universe is thus the movement from rationalism to historicism. The Vichian vision of reality is thus an historical vision of reality.

Thus Vichian man is an integrality in the process of becoming which must be understood in terms of potentiality and actuality. To understand man as man we must understand how he came to be what he is. Ironically, to understand how man came to be what he is, we must first understand what he is. We must first understand, in other words, what man is as an integrality. For man is a being which comes into being because he is an integrality. It is therefore imperative that we come to an understanding of man as an integrality. Only then will we be able to claim that we understand Vichian man and the Vichian science of man.



## Chapter III

### MAN QUA CREATOR

In several of its most important passages, Vico tells us that the Scienza Nuova is founded on a certain discovery which had cost him a good twenty years of persistent research: the discovery of the poetic nature of the founders of human civilisation.<sup>1</sup> For example, in the "Poetic Metaphysics", he says that "the first men of the gentile nations, children of nascent mankind, created things according to their own ideas", by virtue of "a wholly corporeal imagination", and were therefore rightfully "called 'poets', which is Greek for 'creators'".<sup>2</sup> And in the introductory "Idea of the Work", he refers to the "fact" that the first men were poets as "the master key" of his new science of humanity.<sup>3</sup> This remarkable statement must therefore be understood as an affirmation of the essential theme of the Scienza Nuova: the theme that the world of nations was made by the first men and that it is precisely because the first men "made" the world of nations that this world can be "known". Thus the Scienza Nuova, as a science of "the principles of humanity",<sup>4</sup> is a science of man qua creator.

We can therefore confidently state that Vichian man -- man as an integrality -- is in fact a fundamentally historical being endowed with an essentially poetic or creative nature.

Thus the key to understanding man as an integrality is creativity. For an essentially creative being can be fully understood only through the unfolding of his creativity and the fruits of his creative nature. Hence an understanding of man as an integrality necessitates an analysis of the creative function of his being. What follows is intended as a partial contribution to the accomplishment of this task.

### I. The Faculties of the Soul

Since we are concerned primarily with the creative function of man as an integrality, our analysis should begin with an account of the various faculties which Vico ascribes to the human soul: sense, memory, imagination, intellect, and ingenuity.

It is of great importance to note that these faculties are all represented as means of action and production. A faculty (facultas) is simply a facility (facilitas): "a kind of easy or ready skill" by means of which "a power is translated into an act".<sup>5</sup> The translation from power to activity is therefore to be understood as a means of easy execution or creation: "the faculties have to do with the things which we make and which we make with skill and facility".<sup>6</sup> To illustrate what he means by facility Vico informs us that "the soul is a power, vision an act, and the sense of vision a faculty".<sup>7</sup> Thus the soul itself is a power and its faculties are the means by which it acts, productively or creatively, relatively to the external world.

Now by sense (sensus) we are to understand the organic faculties of perception. Vico shares with Descartes the belief that the external world, which is in a state of

constant motion, is perceived by man because it affects the external sense organs of his body.<sup>8</sup> But, unlike Descartes, who believed that the external senses perceive in virtue of their passivity alone,<sup>9</sup> Vico maintains that, properly speaking, they perceive in virtue of their activity. For the sensations themselves are not independent of the senses but are "made" by them. Because "the senses are faculties", writes Vico, "we make the colours of things by seeing, their tastes by tasting, their sounds by hearing, and cold and hot things by touching...[as well as] smell by smelling".<sup>10</sup> Thus man actually produces sensations by means of his external senses.<sup>11</sup> Take away the senses and what they accomplish and all that remains of the external world is the extension and motion generated by the metaphysical points.

The internal sense (animi sensus) also produces what it senses: pain, pleasure, and annoyance, and even wishes and desires. Vico maintains that this is demonstrated by the fact that "in battle men feel pain only when, having withdrawn from it, they notice their wounds".<sup>12</sup> That is to say, pain is actually caused by the spirit's awareness of the wound.<sup>13</sup> Thus man produces what he feels by means of his internal sense at the very same instant that he becomes aware of the internal stimuli which call for specific internal sensations.

As external sense is the operation of the body and internal sense is the operation of the spirit, so memory, imagination, and intellect are the operations of the mind.

Memory (memoria) is the faculty which both retains and recalls what is perceived.<sup>14</sup> As simple memory it is not a passive but an active receptacle of perceptions: "that which stores within itself the perceptions of the sense".<sup>15</sup> Its active nature is even more pronounced when it assumes

the guise of reminiscence (reminiscentia) and "discloses" these perceptions. Hence, because memory, in both its guises, is an activity, in Vichian terms the mind makes its memories.

Imagination (immaginativa) is the faculty by means of which the mind forms images. Vico calls imagination the daughter of memory for the images it forms are nothing but extended and compound memories.<sup>16</sup> That is to say, imagination, as Descartes recognised,<sup>17</sup> cannot form the image of an object never previously sensed or an image whose parts, at least, are not representations of objects which were actually perceived and whose impressions have been stored within the memory.<sup>18</sup> But despite this limitation, within the structure of the Scienza Nuova, imagination, as we shall see, plays a key role in the origin and development of human civilisation.

The intellect (intellectus) is the faculty of understanding. Unfortunately, Vico says nothing about the intellect itself except that it is "a true faculty" because "when we understand something by the intellect, we make it true".<sup>19</sup> Since this statement can be fully understood only in association with Vico's theory of knowledge, all we can say, at this time, is that, like the other faculties, the intellect is essentially productive.

Now the highest facility of the human soul is what Vico calls ingenuity (ingenium). Indeed Vico proclaims ingenuity to be the faculty most peculiar to human nature. For it reveals itself in childhood and, as a child develops naturally from a sensual to a rational being, it evolves naturally from a sensual to a rational facility,<sup>20</sup> and thus spans the entire history of the development of human nature. Moreover it is not the exclusive property of any one

particular power of the human soul. Rather it is shared equally (though it is not made entirely clear how this is possible) by both spirit and mind: in its sensual and practical guises it is an operation of the spirit and in its more rational guises it is an operation of the mind. Thus in a sense ingenuity epitomizes human nature.

But what does Vico mean by ingenuity? We can say with certainty only that human ingenuity manifests itself as (at least) four distinct capacities:

- [1] The capacity to invent, which issues in works of art.
- [2] The capacity to synthesize from prior elements, as in arithmetic and geometry.
- [3] The capacity to perceive relevant similarities between things, which issues in discovery and imitation; in analogy, simile, and metaphor; in the construction of arguments; and in the formulation of scientific hypotheses.
- [4] The capacity of insight, philological and philosophical, into such vague properties as suitability, fittingness, and proportion.<sup>21</sup>

Now these capacities make ingenuity the faculty proper to knowledge and the ingenious activity of the soul the source of human civilisation.

Knowledge, according to Vico, "consists solely in making things fit together in beautiful proportion, which only those of ingenuity can do".<sup>22</sup> That is to say, knowledge is not "intuitive" but "constructive": we know an

object only when we have "made it ourselves".<sup>23</sup> For example: to obtain a complete understanding of a triangle, we must have not only an idea of a triangle, but also the capacity to perceive all the elements in and related to the idea of a triangle (axioms, definitions, lines, and figures), the capacity to discern the relationships between these elements, and the capacity to "arrange" these elements in their proper order and, thereby, "make" the triangle -- clearly all capacities which only those of ingenuity possess. Thus only truly ingenious individuals can obtain knowledge.

The ingenious activity of the human soul was also responsible for the emergence of the civil world of nations. In the Scienza Nuova, Vico says that "in those first times all things necessary to human life had to be invented, and invention is the property of ingenuity".<sup>24</sup> And in the De antiquissima he claims that "just as nature produces physical things, so human ingenuity gives birth to mechanical things, and just as God is the artificer of nature, so man is the god of artifacts".<sup>25</sup> In these passages Vico is referring, in the first place, to the artifacts required to satisfy simple material needs, such as the need for nourishment or shelter; and in the second place, to the primitive institutions of religion, marriage, and burial which were created to order the chaos of infamous promiscuity into which the non-Hebraic descendants of Noah had degenerated.<sup>26</sup> These primitive institutions in turn generated the whole complex of religious, social, and political institutions which constitutes the world of nations. Thus human ingenuity was responsible for both the survival of mankind and the creation of human civilisation.

As we have seen, the world of nations is not all that man has created. Indeed by the application of his faculties

man has created not only artifacts, but also sensations, memories, images, and truths. For man is a creator by nature and his faculties are therefore creative capacities. As Vico says in the Scienza Nuova, "he who is not a poet by nature can never become one by art."<sup>27</sup> Man, as conceived by Vico, is, therefore, in essence a creator.

With this thought in mind, we shall now continue our analysis with an examination of Vico's creative theory of knowledge: verum et factum convertuntur.

## II. The Creative Theory of Knowledge

Every appreciation of Vico has stressed the centrality of his epistemology to his philosophy and the fact that it was formulated to undermine the Cartesian mathematical theory of knowledge and instate the distinctive principles of history as a valid form of thought.<sup>28</sup> Perhaps, then, Vico's epistemology can best be understood by reference to its development out of his criticism of the Cartesian theory of clear and distinct ideas which brought him in the end to the formulation of an entirely new way of knowing, a form of knowledge peculiar to history and wholly dependent upon the essentially creative nature of man.

### 1. Cartesian Epistemology

The most complete statement of Descartes' theory of knowledge is found in the Rules for the Direction of the Mind (1628). In this work, Descartes declares that science or knowledge "in its entirety is true and evident cognition"<sup>29</sup> and that it "consists solely in combining what is self-evident".<sup>30</sup> The key to understanding this notion

lies in his further claim that science is acquired only through intuition and deduction.<sup>31</sup> To understand Descartes' conception of science, we must therefore first understand what he means by intuition and by deduction and the role they play in the attainment of knowledge.

By intuition Descartes means "not the fluctuating testimony of the senses, nor the misleading judgment that proceeds from the blundering constructions of the imagination, but...the undoubting conception of an unclouded and attentive mind, [which] springs from the light of reason alone".<sup>32</sup> This definition attributes two unique characteristics to intuition. The first is that intuition, unlike sense perception and imagination, which are dependent upon the functions of the body, "springs from the light of reason alone" and is thus a pure activity of the mind. The second is that what is intuited by "an unclouded and attentive mind", unlike the content of both sense perception and imagination, cannot be doubted. The possession of these two characteristics makes intuition scientifically productive.

What is intuited cannot be doubted because intuition is a pure activity of the mind. A perceptual experience varies with the conditions in the environment, the state of the body, and the medium of perception, so that one can never be certain of what one has experienced. Similarly, the imagination has the tendency to compose and connect things arbitrarily, leading to the judgment that there are real associations between things merely because they are thus associated in the imagination, which in turn leads to difficulties in distinguishing between fantasy and reality. But intuition, being a pure intellectual activity, is unaffected by perceptual illusions and false images. Thus what is perceived by intuition is perceived clearly and



distinctly and is grasped immediately in its totality.<sup>33</sup> Hence, what is intuited (namely, a "simple nature"<sup>34</sup>) is known per se and cannot be further analysed. What is intuited therefore constitutes "certain knowledge".

Thus for Descartes intuition is simply the human intellect's capacity for the immediate and indubitable apprehension of truth.

Science does not, of course, consist solely of the "simple truths" produced by intuition. To account for more "complex truths" and for the systematic unity characteristic of scientific knowledge, Descartes introduced deduction, a supplementary way of arriving at knowledge, into his epistemological structure.

Descartes describes deduction as a continuous movement of the mind which consists of "all necessary inference from other facts that are known with certainty."<sup>35</sup> That is to say, deduction is the process of inferring, from intuited truths, conclusions which are certain but not, as are intuited truths, self-evident or immediately recognised as true.<sup>36</sup> The conclusion, however complex, is certain because deduction is a purely logical procedure which cannot, Descartes believes, be erroneously conducted by a rational individual.<sup>37</sup> Thus deduction enables the mind to extend itself so as to absorb what at first seems to exceed its grasp, to move logically from intuited simple truths to complex truths, and to achieve a unified and systematic body of knowledge.

Thus intuition and deduction are the only human capacities which afford certain knowledge. But intuition and deduction are operations of human reason and human reason has a tendency to lose itself in vague speculations

which make the attainment of certain knowledge impossible. To resolve this difficulty, Descartes proposed a new mathematical method designed to control this tendency and ensure the attainment of certain knowledge. This method begins with the resolve to doubt all that shows the slightest trace of incertitude and to accept only that which is perceived so clearly and distinctly that doubt is ruled out. Through this process of systematic doubt, the apprehension of indubitable knowledge of simple truths is assured. From these simple truths, which become the first principles of Cartesian epistemology, it is then possible to deduce logically and enumerate other, more complex, truths without having to rely on either the senses or on so-called men of wisdom.<sup>38</sup> By means of this method reason alone is thus able to construct a firm and permanent system of certain knowledge.

By adopting the doctrine of clear and distinct ideas as the criterion of truth and scepticism as a methodology, Descartes was delimiting the scope of science: only that which is revealed by the pure light of reason is to be admitted as knowledge. What this means is that the only source of knowledge is philosophy and its three branches: mathematics, physics, and metaphysics. This dismisses "those simple forms of knowledge which can be acquired without the aid of reasoning, such as languages, history, geography, or to speak generally, everything that depends on experience alone"<sup>39</sup> from the realm of true and certain knowledge. Simply stated: for Descartes, science is rational knowledge, not empirical or experiential knowledge.

Thus history, according to Descartes, is not a science because it is dependent upon experience and not upon ratiocination. Indeed for Descartes history, because it is a question of memory rather than reason, is analogous to a

"fable", a construction of the imagination which stands between reason and the truth it seeks to discover.<sup>40</sup> As such, history, however much it exalts the mind by recounting memorable deeds and assists in the formulation of sound judgments "when read with discretion",<sup>41</sup> can never provide us with trustworthy knowledge. This is explicitly stated in the Discourse on Method:

...even the most accurate of histories, if they do not exactly misrepresent or exaggerate the value of things in order to render them more worthy of being read, at least omit in them all the circumstances which are basest and least notable; and from this fact it follows that what is retained is not portrayed as it really is.<sup>42</sup>

This is not to say, as Malebranche did, that history is "nothing but folly and stupidity"<sup>43</sup> and that historians are men "who do not think but who recount the thoughts of others".<sup>44</sup> Rather, Descartes' point is that history is grounded in subjective experience and it can therefore never afford objective and certain knowledge.

Thus, within the structure of Cartesian epistemology, history was reduced to the status of the contingent and the merely probable and was therefore not regarded as a source of knowledge. Indeed for Descartes historical knowledge is, in effect, impossible: for objective and certain knowledge is constituted solely by what is intuited by the pure light of reason.

## 2. Towards the Verum-Factum Principle

In his early reflections Vico had accepted these anti-historical aspects of Cartesianism, and later confessed that this was so: "All my life I had delighted in the use

of reason more than memory, and the more I knew in philology the more ignorant I saw myself to be, Descartes and Malebranche were not far wrong, it seemed, when they said it was alien to philosophers to work long and hard at philology".<sup>45</sup> But as we have seen Vico gradually began to criticise Cartesian rationalism and, as his own world-view emerged, eventually rejected the Cartesian enterprise.

Vico's dissatisfaction with the Cartesian theory of knowledge first appears in his De nostri temporis studiorum ratione, which was published in 1709. In this work Vico was prepared to allow the capacity of the Cartesian criterion of truth to guarantee mathematical propositions and such metaphysical propositions as the Cogito. But he argues that its capacity could not guarantee knowledge of the truths of physics. For he was convinced that the subject matter of physics is simply not suitable to the deductive methods characteristic of the Cartesian approach to science.

Vico based his conviction on a doctrine concerning the connection between demonstrare and facere in geometry and its application to physics. He argues (briefly) that:

We are able to demonstrate geometrical propositions because we create them; were it possible for us to supply demonstrations of propositions of physics, we would be capable of creating them ex nihilo as well...[But] the archetypal forms, the ideal patterns of reality, exist in God alone. The physical nature of things, the phenomenal world, is modelled after those archetypes. It is our task to study physics in a speculative temper of mind,<sup>46</sup> as philosophers, that is, curbing our presumption.

Geometry is thus the perfect science, being both certain and demonstrable, because its principles and figures are generated entirely out of the definitions and propositions created by the human intellect. On the contrary, physics is

not demonstrable because man is not the author of natural phenomena and can therefore do no more than form hypotheses about the possible causes of natural bodies without being certain of their truth. Thus for Vico mathematical knowledge is radically distinct from knowledge of nature or physics; and this makes the Cartesian project of a mathematical science of nature impossible.

Though it is mentioned only once in the De nostri, by the time Vico wrote his next major work, the De antiquissima Italorum Sapientia, which was published in 1710, this doctrine had been developed into an independent theory of knowledge. And even a very brief examination of the central epistemological thesis of the De antiquissima, the principle verum et factum convertuntur (usually referred to as the verum-factum principle) cannot but reveal that this principle did indeed emerge directly out of this view of the nature of geometrical demonstration.

### 3. The Verum-Factum Principle

Vico introduces the verum-factum principle at the beginning of the first chapter of the De antiquissima in three different but interrelated statements:

- [1] The true is what is made.
- [2] In Latin verum [the true] and factum [what is made] are the same.
- [3] In Latin verum and factum are interchangeable or, in the language of the schools, convertible terms.<sup>47</sup>

Here Vico is clearly asserting a relationship of identity and of synonymity between verum and factum -- between the true and what is made.

James Morrison offers an interpretation of this relationship with which we find ourselves in agreement. He suggests that for Vico:

- [1] Verum and factum are one and the same entity.
- [2] The terms "verum" and "factum" denote the same entity.
- [3] Verum and factum have the same meaning insofar as they have the same extension.
- [4] Verum and factum may be substituted for one another in purely extensional contexts without affecting the truth of the sentences in which they occur.<sup>48</sup>

Morrison makes several interesting observations in support of his interpretation of the verum-factum principle. For example, he notes that Vico "speaks only of verum, an adjective, and not of veritas, an abstract noun"; and that whenever verum is used "it means true, a truth, and what is true, depending on the context".<sup>49</sup> He also points out that factum, "the perfect passive participle of facere, which means both to make and to do," is also used both adjectivally and substantively: "it can mean either made (done), the made (done), or what has been made (done)", again depending on the context, "though that of making is the primary one".<sup>50</sup> The adjectival and substantive employment of verum and of factum implies that verum and factum are entities and that the verum-factum principle is

therefore "not a doctrine about the nature of truth but about the true".<sup>51</sup>

Vico himself confirms this assessment in his statements of the criterion and rule of verum:

From what has been said so far, it is possible to conclude with certainty that the criterion and rule of the true is to have made it.<sup>52</sup>

And:

To conclude in a word, the true converts with the good if what is perceived as true derives its being from the mind by which it is perceived.... Thus, just as for God the criterion of the true is, in the act of creating, to have communicated goodness to his thoughts -- 'and God saw that it was good' -- so among men the criterion<sup>53</sup> is to have made the truths with we perceive.

These statements clearly specify the true and not truth as the primary concern of Vichian epistemology. And the necessary and sufficient condition of something being true is that it has been made: the true is the made. Thus the true (verum) is not a truth in the sense of a true proposition; rather, it is, like the made (factum), an entity.

From this it follows, as Morrison points out, that the verum-factum principle is not a version of the Correspondence Theory of Truth. Vico is not saying that truth is a property of statements or that propositions are that which constitute the true; nor is he saying that "a proposition is true if and only if it corresponds to or is identical with a fact."<sup>54</sup> Indeed Vico does not even speak of propositions. "Verum is not a truth in the sense of a true proposition and factum is not a state of affairs in the sense of what is denoted or described by a true

proposition."<sup>55</sup> Rather, verum and factum are both entities. Thus Vico's verum-factum principle is "radically different from the empiricist-positive view that all truths are truths about facts."<sup>56</sup>

These statements also introduce another, quite distinct, idea into the structure of Vichian epistemology: the idea that knowing is making. For what is true is convertible with what is made because the object recognised as true owes its very being to the mind that knows it. Consequently:

Just as divine truth is what God orders and produces as He comes to know it, so human truth is what man arranges and makes as he knows it. In this way knowledge is cognition of the genus or mode by which a thing is made, and by means of which, as the mind comes to know the mode, because it arranges the elements, it makes the thing.<sup>57</sup>

In another passage Vico is more explicit in his description of this process: human truths are those truths "whose elements we fashion for ourselves, contain within ourselves, and, by means of postulates, extend indefinitely" so that, "when we arrange these elements we make the truths which we come to know through this arranging; and because of all this, we grasp the genus or form by which we do the making."<sup>58</sup> Thus for Vico to know is to make the object known in and through the very act of knowing it: knowing is making.

The interpretation of knowing as making leads to the thesis that knowing and the known are related as cause and effect:

For if the true is what is made, to prove the true by means of causes is the same as to make it. Thus cause and operation will be the same, i.e., activity; while the true and what is made will be the same, namely, the effect.<sup>59</sup>



The verum-factum principle now means: knowing the causes of the true is the same as making the true. In other words, science is knowledge per caussas: "the known (verum) is the effect (factum) of which the act of knowing is the cause".<sup>60</sup>

But how is knowledge per caussas attained? Since knowing is a making of the known, the causes of the known can be only the ingenious activities of the creator-knower. Vico makes this explicit in the following passage:

The ancient philosophers of Italy thought that one proves by causes by setting matter, or the unformed elements of things, in order, and also by synthesizing that which was formerly separate into one. This arrangement and synthesis of elements gives rise to the definite form of a thing, which bestows its particular nature on matter.<sup>61</sup>

Thus what is made is the product of the ingenious activities of the creator-knower. And when the creator-knower arranges these elements he comes to know what he makes in and through the very act of making it: "when we arrange these elements we make the truths which we come to know through this arranging; and [in this way] we grasp the genus or form by which we do the making".<sup>62</sup> Hence knowledge of what is made is attained in and through the productive activities by means of which it was made: to know is to make the thing known.

Now there is an intimate relationship between the verum-factum principle and the thesis that science is knowledge by causes and this relationship is one of presupposition. The more obvious link between these two doctrines has been well documented:

[1] What is true is what is known to be true.

Morrison has thus rightfully emphasized the extensional relationship between verum and factum.

[2] The true (verum) is the made (factum) because knowing is a making (the cause) of what is known (the effect: verum and factum). Thus the knower can know only what he himself has made.

This link clearly indicates -- and this is the crucial point for us -- that the ground of Vico's epistemological principles is the doctrine that knowing is an essentially poetic or creative activity. To put it more philosophically, the ground of Vico's theory of knowledge is the idea that man is endowed with an essentially poetic or creative nature.

The ultimate ground of Vico's epistemology is a two-fold theological principle: in Deo esse primum verum and Deus primas Factor.<sup>63</sup> As Morrison says: "The identity in God of intellect and will -- thinking = willing -- is the basis for understanding both the nature of knowledge and the limits of human knowledge. The infinite divine Creator-Knower is the paradigm for the finite human creator-knower".<sup>64</sup>

There is of course a radical difference between divine and human knowledge. For both God and man knowledge is synthesis: a putting together of the elements of things.<sup>65</sup> But God, infinite mind, "surveys all the elements of things, extrinsic and intrinsic, because he both contains and arranges them, whereas the human mind, because it is finite and external to everything other than itself, collects only the outermost elements of things, rather than all of them".<sup>66</sup> Thus God knows by intelligentia and man knows by cogitatio: God grasps all things intuitively; man can synthesize the elements of things only through time -- discursively and not intuitively.<sup>67</sup> Consequently: "divine truth is a solid representation of things, like something

moulded; human truth is a line drawing or two-dimensional representation, like a picture".<sup>68</sup> In other words, God's knowledge (as intuitive) is complete, whereas human knowledge (as discursive) is incomplete.

But the human intellect possesses a capacity by means of which it can in part overcome this limitation, namely, abstraction, the power to invent or make fictions tamquam ex nihilo.<sup>69</sup> Abstraction lies at the basis of mathematical knowledge. For it provides arithmetic with the fiction of the one (unum) and geometry with the fiction of the point (punctum), and all mathematical truths are simply products of the "workings" of the intellect on these fictional entities.<sup>70</sup> Thus, in mathematical thinking, man creates, similar to the way God created the universe ex nihilo, "a world of shapes and numbers, such as can be contained entirely within himself, and by the extension, shortening, and connection of lines, and the addition, subtraction, and calculation of numbers, he produces an infinite number of works, because the truths he perceives within himself are infinite".<sup>71</sup> Hence in mathematics, and only in mathematics, human truth, because of the creative capacities of the intellect (a "true faculty"<sup>72</sup>), is like divine truth: complete and adequate.

Thus mathematical knowledge is the highest kind of knowledge which man possesses. For mathematical knowledge, unlike knowledge of the truths of physics, is demonstrable.

If all this is true, arithmetic and geometry genuinely demonstrate by causes, although it is not generally thought that they prove things in this way. And the reason why they demonstrate by causes is that the human mind contains within itself the elements of the true which it can set in order and arrange, and from the things set in order and arranged emerges the true which they demonstrate. Thus the demonstration is the same

as the operation, and the true is the same as what is made. And for this reason we cannot prove physics by causes, because the elements of natural things are outside us.<sup>73</sup>

Here Vico is obviously alluding to the thesis of the De antiquissima: "We are able to demonstrate geometrical propositions because we create them; were it possible for us to supply demonstrations of propositions of physics, we would be capable of creating them ex nihilo as well."<sup>74</sup> This clearly indicates not only that mathematics is considered the highest kind of human knowledge in both the De nostri and the De antiquissima, but also that the doctrine concerning the connection between demonstrare and facere in geometry and the verum-factum principle have the same ground: the idea that man can know only what he himself has made.

We are now in a position to consider how the verum-factum principle served as a basis for Vico's criticism and rejection of Cartesian epistemology. Descartes believed the ideal of knowledge to be the identity of thought and being, and he found this ideal in his first principle, Cogito ergo sum. But Vico, having already claimed that knowledge is not intuitive but constructive, believed the cogito to be nothing more than a statement of mere consciousness (coscienza) of thought and not a statement of science (scienza) of being.

The certainty that he thinks is neither knowledge (scienza), nor a rare and fully considered truth, the discovery of which requires such a lengthy meditation by the greatest of philosophers; rather it is merely the everyday consciousness (coscienza) and perception which belongs to any ignorant fellow. For to know is to grasp the genus or form by which a thing is made, whereas consciousness is of those things whose genus or form we cannot demonstrate.<sup>75</sup>

Thus consciousness of thought is not the same as science of being, and science of being cannot therefore be reduced to or derived from consciousness of thought. For scienza is not mere coscienza of an object, not merely certainty of a clear and distinct idea; rather, it is knowledge of the cause of an object, which in turn implies making the object known. Accordingly:

Our clear and distinct idea of the mind cannot be the criterion of the mind itself, still less of other truths. For while the mind perceives itself it does not make itself, and because it does not make itself it does not know the genus or mode by which it perceives itself.<sup>76</sup>

In other words, the mind does not know the cause of its existence because it is not itself the cause of its existence; and because the mind does not know the cause of its existence it cannot know its essence. Thus Descartes was wrong to claim to know that he is a "thinking substance": that he exists is certain; but that he is a thinking being is pure speculation. Had Descartes not mistaken the certainty of a sign of his existence, i.e., thinking, for the cause of his existence, he would not have fallen into error.<sup>77</sup> Science is simply not possible on the basis of mere consciousness: to know is to effect or make the object known.

Thus far Vico has rejected the Cartesian project of a mathematical science of nature, the Cartesian criterion of truth, i.e., the idea of clear and distinct perceptions, and the Cogito. To complete the story of his criticism and rejection of Cartesian rationalism we must now turn our attention to the Scienza Nuova where history is vindicated as a source of knowledge.

#### 4. Knowing, Making, and History

Nowhere in the Scienza Nuova does Vico mention by name the verum-factum principle. He does, however, speak of knowing (scienza) and making (fare) in three central paragraphs (137, 331, and 349) which leave no doubt whatsoever that the verum-factum principle is at the basis of his new science of humanity.

The most fundamental epistemological statement of the Scienza Nuova is found in Element IX, paragraph 137. Here Vico writes: "Men who do not know what is true of things (il vero) take care to hold fast to what is certain (il certo), so that, if they cannot satisfy their intellects by knowledge (scienza), their wills at least may rest on consciousness (coscienza)".

In this important passage Vico is asserting an intimate relationship between scienza and il vero and between coscienza and il certo: il vero is the object of scienza and il certo is the object of coscienza. He is also implying (and this, as we have seen, is important for his criticism of Descartes) that coscienza has a lower epistemological status than scienza: when knowledge is unobtainable, one must be content with consciousness.

The epistemological status of scienza and coscienza is established by the definitions of il vero and il certo respectfully.

The definition of il vero is offered in Element XXII. Here Vico states that il vero is "that property of every science (scienza), noted by Aristotle, that science has to do with what is universal and eternal".<sup>78</sup> That is to say, il vero, which is the object of scienza, is the universal

and eternal.

The definition of il certo is stated in Element CXI. In "good Latin", writes Vico, "certum means particularized, or, as the schools say, individuated".<sup>79</sup> In other words, il certo, which is the object of coscienza, is the particular or the individuated.

These definitions lead to only one possible conclusion. Since "what is universal and eternal" has a higher epistemological status than "what is particular or individuated", scienza is a higher epistemological state than coscienza.

This is confirmed by the further distinction between philosophy and philology. Vico expresses this distinction in Element X.

Philosophy contemplates reason, whence comes knowledge of the true; philology observes that of which human choice is author, whence comes consciousness of the certain.

This axiom by its second part includes among the philologists all the grammarians, historians, critics, who have occupied themselves with the study of the languages and deeds of peoples: both at home, as in their customs and laws, and abroad, as in their wars, peaces, alliances, travels, and commerce.<sup>80</sup>

Thus, only philosophy, by contemplating reason, produces scienza of the true; while philology produces only coscienza of the certain by examining the world of the particular or individuated aspects of reality -- the historical world.

The importance of all these terms becomes evident in Vico's remark that hitherto the philosophers "failed by half" in not certifying their reasoning and their truth by

philological authority, and the philologists "failed by half" in not verifying their observations and facts by philosophical reasoning.<sup>81</sup> This remark clearly indicates that the fundamental epistemological problem of the Scienza Nuova is the problem of the unification of the true and the certain -- of verifying the certain and certifying the true by grounding philology in philosophy and philosophy in philology.<sup>82</sup> In other words, what Vico wishes to achieve in the Scienza Nuova is a philosophy of history -- a new science.

The solution to this problem is expressed in the most memorable and celebrated passage in the Scienza Nuova -- a passage which presents us with a powerful image of human activity. After lamenting the fact that he was unable to find neither philological nor philosophical guidance for his unprecedented enquiry into the early history of human civilisation, Vico declares:

But in the night of thick darkness enveloping the earliest antiquity, so remote from ourselves, there shines the eternal and never failing light of a truth beyond all question: that the world of civil society has certainly been made by men, and that its principles are therefore to be found within the modifications of our own human mind. Whoever reflects on this cannot but marvel that the philosophers should have bent all their energies to the study of the world of nature, which, since God made it, He alone knows; and that they should have neglected the study of the world of nations, or civil world which,<sup>83</sup> since men had made it, men could come to know.

There simply is no more forceful and lapidary expression of the "first truth" of Vico's new science of humanity: the principle that the historical world of nations was made by the first men and that historical knowledge is therefore a specifically human form of knowledge.



In this famous passage Vico is implicitly recalling the epistemological principles of the De antiquissima. Since God made the world of nature only he can have scienza of it; but man can have scienza of the world of nations because men have themselves made it and its "principles" (beginnings or causes) are therefore "to be found within the modifications of our own human mind". Thus, for both works verum (il vero) = factum = certum (il certo): the true is the particular thing made by men. The verum-factum principle is therefore the epistemological basis of Vico's new science of humanity.

There is, however, a fundamental difference between Vico's conception of knowledge in the De antiquissima and his conception of knowledge in the Scienza Nuova. In the De antiquissima the verum-factum principle is restricted to the fictional world of mathematical abstractions, whereas in the Scienza Nuova it has been reinterpreted to apply not only to the fictional world of mathematical abstractions but to the concrete world of human history as well. In fact:

as geometry, when it constructs the world of quantity out of its elements, or contemplates that world, is creating it for itself, just so does our Science [create for itself the world of nations], but with a reality greater by just so much as the institutions having to do with human affairs are more real than points, lines, surfaces and figures are.<sup>84</sup>

Thus knowledge of the world of nations is not only possible but superior to geometrical knowledge because its subject-matter has more reality than the abstract fictions of geometry, or, for that matter, of all mathematical sciences.

History has thus been vindicated. For within the structure of the Scienza Nuova the verum-factum principle

means: the true is to be found in the historical world that man has himself made. Thus il vero = il certo. Thus the true can be certified and the certain can be verified. Thus philosophy can be grounded in philology and philology can be grounded in philosophy: scienza = coscienza. Thus, because man makes the historical world, a science (philosophy) of history can be achieved. Indeed the Scienza Nuova itself is this science. "Our Science comes to describe at the same time an ideal eternal history traversed in time by the history of every nation in its rise, development, maturity, decline, and fall. Indeed, we make bold to affirm that he who meditates this Science narrates to himself this ideal eternal history so far as he himself makes it for himself by that proof 'it had, has, and will have to be'. For the first indubitable principle posited above is that this world of nations has certainly been made by men, and its guise must therefore be found within the modifications of our own human mind. And history cannot be more certain than when he who creates the things also narrates them."<sup>85</sup>

Thus Vico's departure from Cartesian rationalism is now complete. His criticism of the Cartesian theory of knowledge, however, raises an interesting question. The only way that man could come to know his essence is to know the cause of his existence, and the only way that he could know the cause of his existence is if he were himself the cause of his existence, i.e., if man made himself: self-knowledge implies self-making. For this reason Descartes could not claim to know what he is. But Vico does claim to know what he is: a fundamentally historical being endowed with an essentially creative nature. Vico is therefore claiming that within the conceptual structure of his "nuova scienza" self-knowledge is possible. This in turn implies that man does make himself. To complete our analysis of man qua creator we must therefore provide at

least an indication of how or in what sense man makes himself.

### III. Making and Self-Making

The central methodological principle of the "nuova scienza" is that doctrines or theories must begin where the matter which they treat begins.<sup>86</sup> The matter of the history of man must therefore begin where man himself began. To accomplish this task we must, says Vico, "descend from these human and refined natures of ours to the quite wild and savage natures which we cannot at all imagine and can comprehend only with great effort".<sup>87</sup> To say that historical knowledge is a "descent" is to say that human nature, which is cultivated and rational, in fact originated from a crude and bestial nature and that man qua human is intelligible only in terms of his development out of his crude and bestial origins. To put it more philosophically, since for Vico the nature of something is its birth "in certain times and in certain guises" (natura = nascimento),<sup>88</sup> man's nature is to be understood by understanding his birth: how he came to be what he is.

The history of man must therefore begin with an analysis of primitive man.

From these first men, stupid, insensate, and horrible beasts, all the philosophers and philologists should have begun their investigations of the ancient gentiles...And they should have begun with metaphysics, which seeks its proofs not in the external world but within the modifications of the mind of him who meditates it. For since this world has certainly been made by men, it is within these modifications that its principles should have been sought. And human nature, so far as it is like that of animals,

carries with it this property, that the senses are its sole way of knowing things.

Hence poetic wisdom, the first wisdom of the gentile world, must have begun with a metaphysics not rational and abstract like that of learned men now, but felt and imagined as that of these first men must have been, who, without power of ratiocination, were all robust sense and vigorous imagination.

This metaphysical analysis clearly reveals that primitive man was a creature of the senses and of the imagination and that he therefore believed only what was apprehended by the senses and what was produced by his own imagination. Vico makes this explicit in a wonderful passage which explains the awakening in man of the confused idea of divinity which is a necessary condition of historical progress.

Of such natures must have been the first founders of gentile humanity when...at last the sky fearfully rolled with thunder and flashed with lightning, as could not but follow from the bursting upon the air for the first time of an impression so violent. Thereupon a few giants, who must have been the most robust, and who were dispersed through the forests on the mountain heights where the strongest beasts have their dens, were frightened and astonished by the great effect whose cause they did not know, and raised their eyes and became aware of the sky. And because in such a case the nature of the human mind leads it to attribute its own nature to the effect, and because in that state their nature was that of men all robust bodily strength, who expressed their very violent passions by shouting and grumbling, they pictured the sky to themselves as a great animated body, which in that aspect they called Jove, the first god of the so-called greater gentes who meant to tell them something by the hiss of his bolts and the clap of his thunder. And thus they began to exercise that natural curiosity which is the daughter of ignorance and the mother of knowledge, and which opening the mind of man, gives birth to wonder.

The idea of divinity is a necessary condition of historical development because providence "directs" the development of human institutions<sup>91</sup> in order to ensure the achievement of humanitas. However, as this passage clearly indicates, man and not providence created human institutions. Indeed by means of the ingenious activity of his imaginative nature, primitive man, in order to satisfy certain basic needs, created the institutions of religion, marriage, and burial,<sup>92</sup> and, thereby, created his own civilisation.

These primitive institutions are the basic "elements" from which subsequent "poets" fashioned the whole complex of religious, social, and political institutions which constitutes the world of nations.

Now these institutions take on a certain character which is conditioned solely by the fundamental characteristics of the natures of their creators, characteristics which pervade and colour their every activity, belief, and creation. Thus, as human nature develops from its purely sensual to its fully rational state, human institutions undergo the very same "modifications" as human nature.<sup>93</sup> There is, therefore, a parallel development between human nature and human institutions. Not only is the sequence of the development of human institutions determined by the sequence of the development of human nature but also the character of human institutions at each of its stages is determined by the character of human nature at the corresponding stage in the sequence of development. Thus the institutions of society were not, as the rationalists believed,<sup>94</sup> made by fully developed rational beings, but by creatures-not-yet-human. "What Vico wanted to assert was that the first steps in the building of 'the world of nations' were taken by creatures who were still (or who had degenerated into) beasts, and

that humanity itself was created by the very same processes by which the institutions were created. Humanity is not a presupposition, but a consequence, an effect, a product of institution building."<sup>95</sup>

Thus Vico is asserting that these creatures-not-yet-human made themselves human. The first men, says Vico, "by the particular physics of man, in a certain sense, created themselves".<sup>96</sup> And in the "Poetic Economy" (which is concerned with the family and household), Vico claims to show how "the founders of gentile humanity in a certain sense generated and produced in themselves the proper human form in its two aspects": a human "corporature" and "the form of our human mind".<sup>97</sup> The phrase "in a certain sense" implies that "humanity is not literally causa sui but rather a 'forming' of a prior material substrate, namely, the pre-human bestial 'nature' of the first 'men'".<sup>98</sup> Thus man makes himself not ex nihilo but ex natura.

But how does man make himself ex natura? Vico says only that the founders of gentile humanity "by means of frightful religions and terrible paternal powers and sacred ablutions brought forth from their giant bodies the form of our just corporature" and "by discipline of their household economy they brought forth from their bestial minds the form of our human mind".<sup>99</sup> Here Vico is clearly referring to "education"<sup>100</sup> as the means by which the transformation from pre-human to human nature is brought about. By means of proper education "stupid, insensate, and horrible beasts" are, over a long period of time, transformed into cultivated and rational beings. And, although it is not at all clear how this is possible, by means of "the education of bodies"<sup>101</sup> the fathers educe from the giant bodies of their sons the proper human bodily form. Thus self-making is a

matter of "forming" the proper human nature from the crude and savage bestial nature of the first men.

For Vico, then, making and self-making are two aspects of the same process: the historical movement to humanitas. "When he calls the world of nations the world of men, he means that what were beasts in the world of nature become men in the world of nations, and it is by the becoming of the world of nations that they become men. Or, as he put it otherwise, in a sense they make the world of nations, and in the same sense they make themselves by making it".<sup>102</sup> And men make the world of nations and themselves because they are by nature poets.

Thus the relationship between making and self-making once again raises to the surface the fundamental presupposition of Vico's new science of humanity: the idea that man is endowed with an essentially creative nature. We can now, at the end of our analysis, declare with absolute certainty the nature of man as conceived by Vico: man as an integrality is a fundamentally historical being endowed with an essentially creative nature.

## CONCLUSION

The transition for rationalism to historicism effected by Giambattista Vico has now been fully explicated. Our analysis of this transition has clearly revealed that the historicization of man and of human thinking was in fact engendered by an implicit ontological transformation which was an immediate consequence of Vico's attempt to replace Cartesian mechanism with his revised version of Stoic dynamism. The "nuova scienza", in other words, has as its ground Vico's anti-Cartesian cosmology.

For, as we have seen, Vico, in explicit opposition to the Cartesian conception of nature as pure matter in motion, propounded the conception of nature as "process", as evolutionary movement from potentiality to actuality, thus making the universe itself not an immense physical machine but an intrinsically dynamic and evolutionary process. The ontological implication of this transition is clearly the transformation of being as the changeless substratum of reality to being as becoming. This transformation in turn ultimately manifests itself as the transformation of man as a "thinking substance" to man as an integrality, a unified and concrete reality forever in the process of becoming, i.e., in the evolutionary (historical) movement, in space and in time, from potentiality to actuality. That is to say, man is not, according to Vico, a fundamentally rational being but a fundamentally historical being: indeed, to be precise, man is a fundamentally historical being endowed with an essentially creative nature. Thus Vico's



cosmological speculations undermined the conceptual structure of the rational understanding of reality and established the conceptual structure of a new, historical understanding of reality.

We can thus confidently conclude that Vico's "nuova scienza" is indeed a fundamentally anti-Cartesian science of man. Whether, however, it provides us with a mirror with which to see reality as it is truly is a matter open to further enquiry.

## NOTES TO CHAPTER I

<sup>1</sup>Giambattista Vico, The Autobiography of Giambattista Vico, trans. Thomas G. Bergin and Max H. Fisch (London, 1975), p. 132. This work, originally entitled Vita di G.B. Vico, scritta da se medesimo, first appeared as a model of the art of writing about oneself in Angelo Calogera's collection of articles: Raccolta di opuscoli scientifici e filologici, Venice: Zani, 1728. The addition of 1731 was published posthumously in 1818 along with Villarosa's account of Vico's later years, which was based largely on the oral Vico tradition. The most unique feature of the Autobiography is that it is written in the third person. Its most unfortunate feature is that it contains numerous chronological and other inaccuracies and, more importantly, the omission of acknowledgement of the influence of the new movement (particularly the Cartesian aspects of the new movement) on his intellectual development. He did write a corrected copy of the original autobiography in 1731 for a volume of biographies of the members of the Academy of the Assorditi of Urbino, to which he had been elected on May 17, 1730, but this manuscript was lost. Had it survived, it might have shed light on the nature of Vico's certain involvement in the new movement.

<sup>2</sup>Tycho, who was Kepler's mentor, was Europe's leading astronomer in the half century after Copernicus. Though his painstaking astronomical observations contributed to the systematisation of celestial motion, he firmly adhered to Ptolemy's geocentric theory of the universe.

<sup>3</sup>Boyle was an English natural philosopher and the leading chemical experimentalist of his time. Greatly influenced by Bacon, he advanced the so-called corpuscular theory of natural elements, which was designed to integrate philosophy and chemistry, thereby grounding philosophy on a firm scientific basis.

<sup>4</sup>Vesalius, a Flemish professor of surgery at Padua, was instrumental in the reconstruction of Galen's anatomical science. His De humanis corporis fabrica, which appeared in 1543, the year of Copernicus's De revolutionibus, succeeded in correcting many, but not all, of Galen's errors and in placing anatomy on the sound basis of practical human dissection.

<sup>5</sup>Harvey, an English physician and anatomist who studied at Padua, discovered that the heart pumps blood through the body, and that blood thus circulates (ca., 1616), abolishing the view that the heart was only an instrument for respiration.

<sup>6</sup>See a most interesting treatment of modern science in E.A. Burtt, The Metaphysical Foundations of Modern Science, Atlantic Highlands: Humanities Press, 1952.

<sup>7</sup>See The World (1634) and the Dioptrics, the Meteors, and the Geometry (1637). Of these, only The World has, as far as we know, been translated into English; see Rene Descartes, The World, trans. Michael Sean Mahoney, New York: Abaris Books, Inc., 1979.

<sup>8</sup>The Roman Inquisition was not as malicious as the Spanish Inquisition. Galileo, whose Dialogue on the Great World Systems (1632) was put on the Index, was forced to recant his "errors" and sentenced to house arrest for the

remainder of his life -- eight years. He was not put to death. He was not even prohibited from continuing his work or from writing. Yet his Discourses on Two New Sciences (1638), the last and greatest of his works, was published in Leiden. This was not an accident. Protestant domains were much more receptive to, and provided a freer atmosphere for, dialogue on new scientific and philosophical ideas than Catholic domains, where fear of persecution prevailed. Not all, however, were as fortunate as Galileo. On Galileo, see Giorgio de Santillana's fine book, The Crime of Galileo, Chicago: University of Chicago Press, 1976.

<sup>9</sup>Robert Flint, Vico (New York, 1979), pp. 8-11.

<sup>10</sup>Ibid., p. 12.

<sup>11</sup>Max H. Fisch, "The Academy of the Investigators", Science, Medicine and History: Essays in Honour of Charles Singer, ed. E.A. Underwood, vol. 1 (London, 1953), p. 545. It is most likely for this reason that Vico does not even once mention the Inquisition in his autobiography.

<sup>12</sup>Ibid., p. 523.

<sup>13</sup>Ibid., p. 530, note 50.

<sup>14</sup>Ibid., p. 526.

<sup>15</sup>Quoted by Bergin and Fisch in Vico, The Autobiography, pp. 32-33.

<sup>16</sup>Vico, The Autobiography, p. 114.

<sup>17</sup>Ibid., p. 112.

<sup>18</sup>A synopsis of the influence of these writers on Vico is provided by H.P. Adams, The Life and Writings of Giambattista Vico (New York, 1970), pp. 34-39.

<sup>19</sup>See the translation by Adams, The Life and Writings of Giambattista Vico, pp. 222-226.

<sup>20</sup>Vico, The Autobiography, pp. 119-130.

<sup>21</sup>Ibid., p. 119 and p. 122.

<sup>22</sup>Ibid., p. 121.

<sup>23</sup>Ibid., p. 122.

<sup>24</sup>Ibid., p. 121.

<sup>25</sup>Ibid., p. 121.

<sup>26</sup>Plato, Timaeus, trans. Benjamin Jowett, The Collected Dialogues of Plato, ed. Edith Hamilton and Huntington Cairns (Princeton, 1969), 52d ff.

<sup>27</sup>Vico, The Autobiography, p. 122.

<sup>28</sup>Ibid., p. 122.

<sup>29</sup>Ibid., p. 126 and p. 128.

<sup>30</sup>Ibid., p. 122.

<sup>31</sup>Ibid., p. 122.

<sup>32</sup>See St. Augustine's On Free Choice of the Will, trans. Anna S. Benjamin and L.H. Hackstaff (Indianapolis, 1964), pp. 35-39.

<sup>33</sup>Vico, The Autobiography, p. 119.

<sup>34</sup>Ibid., p. 128.

<sup>35</sup>Fisch, "The Academy of the Investigators", p. 542.  
See also Vico, The Autobiography, p. 138.

<sup>36</sup>Vico, The Autobiography, p. 114., and also note 133,  
p. 216.

<sup>37</sup>Fisch, "The Academy of the Investigators", p. 549.

<sup>38</sup>Doria (1661-1743), a mathematician, metaphysician, natural scientist, and poet, was one of the chief Cartesians in Naples. Late in life, however, he became one of the leaders of the reaction against Descartes -- whether this was because of his intimate friendship with Vico is unknown.

<sup>39</sup>Vico, The Autobiography, p. 130. Caloprese (1653-1715), Naples' most devout Cartesian, had dedicated himself to the task of educating the young in the principles of Cartesian philosophy.

<sup>40</sup>Ibid., p. 147.

<sup>41</sup>Adams, The Life and Writings of Giambattista Vico, p. 182.

<sup>42</sup>On the Study Methods of our Time, trans. Elio Gianturco, Indianapolis: The Bobbs-Merrill Company, Inc., 1965.

<sup>43</sup>On the Ancient Wisdom of the Italians, Vico: Selected Writings, ed. and trans. Leon Pompa, London: Cambridge University Press, 1982. It is important to note

that Vico had intended to publish a complete system of philosophy in three books which were to be entitled, Metaphysicus, Physicus, and Moralis. However, only the first book, Metaphysicus, was written and it was published bearing the title De antiquissima Italorum sapientia. It seems that Vico chose to publish the Scienza Nuova instead of the last two books of the projected system of philosophy.

<sup>44</sup>Vico's chair of rhetoric carried a term of only four years; his reputation ensured his continuous reappointment.

<sup>45</sup>This work is composed of three volumes: the major treatise, De uno universi juris principio et fine uno (1720); a commentary on the treatise, De constantia jurisprudentis (1721); and the Notae in duos libros (1722), a collection of supplementary philological and philosophical notes. The Diritto universale has not been translated into English.

<sup>46</sup>Vico, The Autobiography, p. 164.

<sup>47</sup>Unfortunately, Vico's negative exposition has been lost.

<sup>48</sup>This last edition of Vico's masterpiece was fully entitled Principi di Scienza Nuova di Giambattista Vico d'intorno alla comune natura delle nazioni (Principles of New Science of Giambattista Vico concerning the common nature of the nations). It must be noted that the Scienza Nuova was written in Italian, not in Latin; in other words, it was written for the people of Vico's country, not for the academic community that had rejected him.

<sup>49</sup>Vico, The Autobiography, p. 134.

<sup>50</sup>Vico first postulated this epistemological principle in De antiquissima. Its originality has, however, been hotly disputed during this century. There have been attempts to trace this doctrine to such thinkers as St. Thomas Aquinas, Duns Scotus, Occum, Ficino and many other neoplatonists, Francesco Sanchez, Locke, Hobbes, and even Spinoza. But evidence seems to suggest that the principle to which these thinkers casually referred bore only a slight resemblance to Vico's doctrine; and in fact, many had something completely different in mind (the one exception is Hobbes, whom we shall be concerned with in our final chapter). Most importantly, Vico was, as far as it is known, the first to construct an all encompassing theory of knowledge and a science of humanity upon this principle. For a fine discussion of this dispute see Isaiah Berlin, Vico and Herder: Two Studies in the History of Ideas, London: Chatto & Windus, 1980., pp. 99-142., and Benedetto Croce, The Philosophy of Giambattista Vico, trans. R.G. Collingwood, New York: The MacMillan Company, 1913., Appendix III., pp. 279-301.

<sup>51</sup>We have borrowed the term "integrality" from Elio Gianturco who uses it in his Introduction to On the Study Methods of our Time, p. xvi. Vico himself does not, as far as we know, use this term, but it adequately expresses the wholeness of man that Vico's "nuova scienza" emphasizes.

<sup>52</sup>Vico, The Autobiography, p. 15.

<sup>53</sup>Ibid., p. 14.

<sup>54</sup>Bergin and Fisch, in their Introduction to The Autobiography (cf., pp. 20-23), cite the combined influence of the Reformation and the Counter-Reformation and the rise



of national states as the other causes of this historical renaissance.

<sup>55</sup>R.G. Collingwood, The Idea of History, (London, 1956), pp. 86-88.

<sup>56</sup>Ibid., p. 86.

<sup>57</sup>Ibid., pp. 81-85.

<sup>58</sup>Ibid., pp. 86-204.

<sup>59</sup>Ibid., p. 71.

<sup>60</sup>Edmund Wilson, To the Finland Station, (Garden City, 1972), p. 4.

<sup>61</sup>Ibid., p. 4.

<sup>62</sup>Flint, Vico, p. 230.

<sup>63</sup>Wilson, To the Finland Station, p. 6.

<sup>64</sup>Bergin and Fisch, Introduction to The Autobiography, p. 66.

<sup>65</sup>Ibid., p. 66.

<sup>66</sup>Ibid., p. 67.

<sup>67</sup>Vico, The Autobiography, p. 182.

NOTES TO CHAPTER II

<sup>1</sup>Isaiah Berlin, Vico and Herder: Two Studies in the History of Ideas (New York, 1970), p. XVI.

<sup>2</sup>Rene Descartes, The Philosophical Works of Descartes, trans. Elizabeth S. Haldane and G.R.T. Ross, 2 vols. (London, 1979), I: 152.

<sup>3</sup>Rene Descartes, The World, trans, Michael Sean Mahoney (New York, 1979), p. 71.

<sup>4</sup>Ibid., p. 53.

<sup>5</sup>Ibid., p. 53.

<sup>6</sup>Ibid., p. 57.

<sup>7</sup>Ibid., p. 59.

<sup>8</sup>Ibid., p. 65.

<sup>9</sup>Ibid., p. 63.

<sup>10</sup>Ibid., pp. 72-123.

<sup>11</sup>The thesis that Descartes' physics forced him to substantialize "thinking" is also advanced by Albert Shalom. See Albert Shalom, "Subjectivity", Review of Metaphysics 38 (December 1984): 227-273.

<sup>12</sup>Descartes, Works, I: 101.

<sup>13</sup>Ibid., I: 153.

<sup>14</sup> Shalom, "Subjectivity", p. 234. That Descartes substantialized "thinking" and not, for example, "sensing" can be easily explained: within the structure of Cartesian physics only "thinking" cannot be derived from the physical world. Thus "pure thinking" necessarily became the locus of all the elements of subjective experience.

<sup>15</sup>Ibid., pp. 233-235.

<sup>16</sup>As an example of this neglect, we need only to note that Pompa's English translation of the De antiquissima excludes those sections concerned with the theory of metaphysical points and conatus. Pompa has therefore obviously failed to recognize the significance of Vico's cosmology.

<sup>17</sup>Benedetto Croce, The Philosophy of Giambattista Vico, trans. R.G. Collingwood (New York, 1913), pp. 141-142.

<sup>18</sup>"Zeno, the founder of Stoicism, was currently represented in the time of Vico as having taught that the materia prima was composed of indivisible parts; Zeno, the Eleatic, had employed the notion of infinite divisibility in the construction of those famous puzzles on which Aristotle and so many subsequent philosophers have exercised their ingenuity; and Vico, in some inexplicable manner, fancied that these two were one, and so created for himself a Zeno who explained the origination of the many from the One by the hypothesis of indivisible metaphysical points". Flint, Vico, p. 115.

<sup>19</sup>Croce, The Philosophy of Giambattista Vico, p. 142.

<sup>20</sup>Vico, The Autobiography, p. 128.

<sup>21</sup>Giambattista Vico, L'Antichissima Sapienza Degli Italici, Vico: Opere Filosofiche, trans. Paolo Cristofolini (Florence, 1971), p. 88. We are responsible for the translations from L'Antichissima, the Prima Riposta, and the Seconda Riposta. We wish to acknowledge the invaluable assistance in this difficult task of Felice Accogli. We, however, are responsible for any errors in the translations.

<sup>22</sup>Vico, The Autobiography, p. 122.

<sup>23</sup>Ibid., p. 129. See also pp. 11-18 above.

<sup>24</sup>We are aware of the fact that Vico never wrote a physics. But there is no question that the theory of metaphysical points is the ground of Vico's conception of nature. Thus, if Vico had written a physics, as he had planned, it would have constituted a completion of the theory of metaphysical points. Since his physics is not available, the theory of metaphysical points remains, strictly speaking, his cosmology. We, however, refer to it as the physics because it is the ground of Vico's conception of nature.

<sup>25</sup>We shall be referring to the cosmological doctrines of Zeno of Citium and Chrysippus of Soli -- the masters of the ancient Stoa. We shall not, however, make subtle distinctions between their respective doctrines. Our only concern is to provide a brief summary of the essence of the early Stoic conception of the universe. For an interesting discussion of the differences between the cosmological views of these thinkers, see Josiah B. Gould, The Philosophy of

Chrysippus, Albany: State University of New York Press, 1970.

<sup>26</sup>The relationship between Vico and the Stoics was brought to our attention by Albert Shalom, who noticed that Vico's conatus and the Stoics' pneuma, though two fundamentally different conceptions, share one essential characteristic: both are active principles defined in terms of force.

<sup>27</sup>Quoted in Samuel Sambursky, Physics of the Stoics (Wesport, 1973), p. 2.

<sup>28</sup>Samuel Sambursky, The Physical World of the Greeks (London, 1963), p. 133.

<sup>29</sup>Sambursky, Physics of the Stoics, p. 2.

<sup>30</sup>Quoted in Sambursky, Physics of the Stoics, p. 121.

<sup>31</sup>Quoted in Sambursky, The Physical World of the Greeks, p. 135.

<sup>32</sup>Quoted in Sambursky, The Physical World of the Greeks, p. 135.

<sup>33</sup>Sambursky, Physics of the Stoics, p. 4.

<sup>34</sup>Gould, The Philosophy of Chrysippus, p. 111.

<sup>35</sup>Quoted in Sambursky, The Physical World of the Greeks, p. 135.

<sup>36</sup>Sambursky, The Physical World of the Greeks, p. 135.

<sup>37</sup>Sambursky, Physics of the Stoics, p. 5.

<sup>38</sup>Quoted in Sambursky, The Physical World of the Greeks, p. 135.

<sup>39</sup>Quoted in Sambursky, The Physical World of the Greeks, p. 134.

<sup>40</sup>Gould, The Philosophy of Chrysippus, p. 96.

<sup>41</sup>Ibid., p. 36. Diogenes Laertius tells us that "the substance of God is declared by Zeno to be the whole world and the heaven, as well as by Chrysippus in his first book Of the Gods". Diogenes Laertius, Lives of Eminent Philosophers, trans. R.D. Hicks (London, 1925), VII: 253. And Cicero informs us that Chrysippus "argues that ether is that which men call Zeus, and that Neptune is air which diffuses itself through the sea, and that earth is that which is called Demeter, and in a similar way, he treats the names of the remaining gods." Quoted in Gould, The Philosophy of Chrysippus, p. 155.

<sup>42</sup>Diogenes Laertius, Lives of Eminent Philosophers, VII: 253.

<sup>43</sup>Gould, The Philosophy of Chrysippus, p. 155.

<sup>44</sup>Ibid., p. 155.

<sup>45</sup>Ibid., p. 37. This was also Plato's theory. "Now when the creator had framed the soul according to his will, he formed within her the corporeal universe, and brought the two together and united them center to center. The soul, interfused everywhere from the center to the circumference of heaven, of which also she is the external envelopment,

herself turning in herself, began a divine beginning of never-ceasing and rational life enduring throughout all time. The body of heaven is visible, but the soul is invisible and partakes of reason and harmony, and, being made by the best of intellectual and everlasting natures; is the best of things created. And because she is composed of the same and of the different, and is divided and united in due proportion, and in her revolutions returns upon herself, the soul, when touching anything which has being, whether dispersed in parts or undivided, is stirred through all her powers to declare the sameness or difference of that thing and some other, and to what individuals are related, and by what affected, and in what way and how and when, both in the world of generation and in the world of immutable being." Plato, Timaeus, 36e-37b.

<sup>46</sup>Ibid., p. 44.

<sup>47</sup>See pp. 15-16 above.

<sup>48</sup>Vico, L'Antichissima, p. 86.

<sup>49</sup>Ibid., p. 86.

<sup>50</sup>Ibid., p. 90.

<sup>51</sup>See pp. 11-18 above.

<sup>52</sup>Vico, L'Antichissima, p. 92.

<sup>53</sup>Ibid., p. 88.

<sup>54</sup>Giambattista Vico, Prima Riposta, Vico: Opere Filosofiche (Florence, 1971), p. 144.

<sup>55</sup>Giambattista Vico, Seconda Riposta, Vico: Opere Filosofiche (Florence, 1971), p. 160. The translation reads: "virtue or potential of extension and of motion".

<sup>56</sup>Vico, L'Antichissima, p. 94.

<sup>57</sup>Ibid., p. 90.

<sup>58</sup>Ibid., p. 88.

<sup>59</sup>Ibid., p. 86.

<sup>60</sup>Ibid., p. 86.

<sup>61</sup>Vico, Seconda Riposta, p. 162.

<sup>62</sup>Ibid., p. 168.

<sup>63</sup>Vico, L'Antichissima, p. 110.

<sup>64</sup>Ibid., p. 88.

<sup>65</sup>Ibid., p. 88.

<sup>66</sup>Ibid., p. 90.

<sup>67</sup>Ibid., p. 90.

<sup>68</sup>Ibid., p. 94.

<sup>69</sup>Ibid., p. 88.

<sup>70</sup>Ibid., p. 90.

<sup>71</sup>Ibid., p. 90.



<sup>72</sup>Ibid., p. 86.

<sup>73</sup>Ibid., p. 86.

<sup>74</sup>Ibid., p. 86.

<sup>75</sup>Ibid., p. 92.

<sup>76</sup>Ibid., p. 92.

<sup>77</sup>Ibid., p. 90.

<sup>78</sup>Ibid., p. 90.

<sup>79</sup>Ibid., p. 90.

<sup>80</sup>Although Vico himself does not employ the term "natura extendiens", we believe that it adequately depicts the essence of his conception of "matter".

<sup>81</sup>Vico, Prima Riposta, p. 137.

<sup>82</sup>Vico, L'Antichissima, p. 96.

<sup>83</sup>Ibid., p. 90.

<sup>84</sup>Aristotle defined motion as "the actuality of the potentially existing qua existing potentially." Aristotle, Physics, trans. H.G. Apostle (Grinnell, 1982), 201a10-15.

<sup>85</sup>Vico, L'Antichissima, p. 104. The identification of the soul and the air which God breathed into his creation was also advanced by Tertullian in his lost work De censu anima and is briefly considered in his De anima. Tertullian makes this identification explicit in the following passage.

"The nature of a being is betrayed by its normal operations. Thus it is clear that you have greater reason for believing the breath [of God] and the soul to be one, since you assign no real difference between them; hence, the soul and breath are one, both life and respiration being functions of the soul. Why make a distinction between day and the light which pertains to day, when day is, really, only light?...Whenever the question arises as to soul and breath, be sure that the soul is the breath, just as day is the light of day itself. For there is no difference between a being and that by which it is a being" (De anima, 10:7). But Tertullian, unlike Vico, believed that the soul is corporeal: it has length, breadth, height, colour, and the same configuration as the human body (De anima, 5-9). See Tertullian, De anima, trans. Edwin A. Quain (New York, 1952), 10:9.

<sup>86</sup>In the De anima Aristotle defined life as self-nourishment, growth, and deterioration of body. Aristotle, De anima, trans. H.G. Apostle (Grinnel, 1982), 412a10-15.

<sup>87</sup>Vico, L'Antichissima, p. 102. This view of motion bears a striking similarity to Descartes' theory of vortices. In The World, Descartes states that: "because there is no void at all in the new world, it was impossible for all the parts of matter to move in a straight line. Rather, all of them being just about equal and as easily divertible, they all had to unite in some circular motions. And yet, because we suppose that God first moved them diversely, we should not imagine that they all came together around a single centre, but around many different ones, which we may imagine to be diversely situated with respect to one another" (Descartes, The World, pp. 79-81). But,

whereas Descartes' vortices are purely mechanical, Vico's vortices are ultimately dependent upon conatus.

<sup>88</sup>Ibid., p. 90.

<sup>89</sup>Vico, The Autobiography, p. 130.

<sup>90</sup>Ibid., p. 130.

<sup>91</sup>Descartes, Works, 1:152.

<sup>92</sup>Giambattista Vico, On the Ancient Wisdom of the Italians, Vico: Selected Writings, trans. Leon Pompa (London, 1982), p. 59.

<sup>93</sup>Vico, L'Antichissima, p. 104. In the De anima, Aristotle maintained that the soul is vegetative, sensitive, intellectual, and motive and that it is united to the body as form to matter.

<sup>94</sup>Ibid., p. 106.

<sup>95</sup>Aristotle maintained that "the soul is the cause or source of the living body" and that the vegetative soul "is the most primitive and widely distributed power of soul, being indeed that one in virtue of which all are said to have life". Aristotle, De anima, 415a20-415b10.

<sup>96</sup>Vico has obviously incorporated into his conceptual structure Descartes notion of "a certain very subtle air or wind which is called the animal spirits" (Descartes, Works, I:334. This notion is fully explained in The Passions of the Soul. But what is here most worthy of remark is that all the most animated and subtle portions of the blood which the heat has rarefied in the heart, enter ceaselessly in

large quantities into the cavities of the brain. And the reason which causes them to go there rather than elsewhere, is that all the blood which issues from the heart by the great artery takes its course in a straight line towards that place, and not being able to enter it in its entirety, because there are only very narrow passages there, those of its parts which are the most agitated and the most subtle alone pass through, while the rest spreads abroad in all the other portions of the body. But these very subtle parts of the blood form the animal spirits; and for this end they have no need to experience any other change in the brain, unless it be that they are separated from the other less subtle portions of the blood; for what I here name spirits are nothing but material bodies and their one peculiarity is that they are bodies of extreme minuteness and that they move very quickly like the particles of the flame which issues from a torch. Thus it is that they never remain at rest in any spot, and just as some of them enter into the cavities of the brain, others issue forth by the pores which are in its substance, which pores conduct them into the nerves, and from there into the muscles, by means of which they move the body in all the different ways in which it can be moved." Descartes, Works, I:335-336.

<sup>97</sup>Vico, L'Antichissima, p. 106.

<sup>98</sup>"Mind in this sense of it is separable, impassible, unmixed, since it is in its essential nature activity. For always the active is superior to the passive factor, the originating force to the matter which it forms" (Aristotle, De Anima, 430a15-20).

<sup>99</sup>St. Thomas Aquinas, Commentary on Aristotle's De Anima, trans. K. Forster and S. Humphries (New Haven, 1951): 739. The complete passage, a statement of his

interpretation of Aristotle's active intellect, reads as follows. "For if the agent intellect as such included the definite forms of all intelligible objects, the potential intellect would not depend upon phantasms; it would be actualized simply and solely by the agent intellect; and the latter's relation to intelligible objects would not be that of a maker to something made, as the Philosopher here says; for it would simply be identical with them. What makes it therefore in act with respect to intelligible objects is the fact that it is an active immaterial force able to assimilate other things to itself, i.e., to immaterialize them. In this way it renders the potentially intelligible actually so (like light which, without containing particular colours, actually brings colours into act). And because this active force is a certain participation in the intellectual light of separated substances, the Philosopher compares it to a state and to light; which would not be an appropriate way of describing it if it were itself a separate substance".

<sup>100</sup>Giambattista Vico, The New Science of Giambattista Vico, trans. from the third edition by Thomas G. Bergin and Max H. Fisch (London, 1948), 407. All further references are cited as S.N. followed by paragraph numbers.

<sup>101</sup>Vico, Ancient Wisdom, pp. 60-61.

<sup>102</sup>S.N. 147-148. The term which Bergin and Fisch have translated as "institution" is cosa. For Vico, however, the term cosa signifies not only "institution" but also "thing" and "affair", and therefore can, and does, refer to man.

<sup>103</sup>S.N. 329.

<sup>104</sup>S.N. 329.

105 S.N. 916-918.

106 S.N. 919-921.

107 S.N. 922-924.

NOTES TO CHAPTER III

<sup>1</sup>S.N. 4, 338, 376.

<sup>2</sup>S.N. 376. Vico always emphasizes the root meaning of poeta (from poiein): maker or creator.

<sup>3</sup>S.N. 34.

<sup>4</sup>S.N. 338.

<sup>5</sup>Vico, Ancient Wisdom, p. 67.

<sup>6</sup>Ibid., p. 76.

<sup>7</sup>Ibid., pp. 67-68.

<sup>8</sup>For Descartes' views on the faculties of the human soul see Descartes, Works, I: 35-40 and 289-296.

<sup>9</sup>In the Rules for the Direction of the Mind, Descartes states that: "all our external senses, in so far as they are part of the body, and despite the fact that we direct them towards objects, so manifesting activity, viz., a movement in space, nevertheless properly speaking perceive in virtue of passivity alone, just in the way that wax receives an impression from a seal". Descartes, Works, I:36.

<sup>10</sup>Vico, Ancient Wisdom, p. 68.

<sup>11</sup>Descartes, on the contrary, believed that sensations are derived from the external world. In the Rules he says that: "We ought to believe that the way is entirely the same in which the exterior figure of the sentient body is really modified by the object, as that in which the shape of the surface of the wax is altered by the seal. This has to be admitted not only in the case of the figure, hardness, roughness, etc. of a body which we perceive by touch, but even when we are aware of heat, cold and the like qualities. It is likewise with the other senses. The first opaque structure in the eye receives the figure impressed upon it by the light with its various colours; and the first membrane in the ears, the nose, and the tongue that resists the further passage of the object, thus also acquires a new figure from the sound, the odour, and the savour, as the case may be....It is exceedingly helpful to conceive all those matters thus, for nothing falls more readily under sense than figure, which can be touched and seen. Moreover that nothing false issues from this supposition more than from any other, is proved by the fact that the concept of figure is so common and simple that it is involved in every object of sense. Thus whatever you suppose colour to be, you cannot deny that it is extended and in consequence possessed of figure." Descartes, Works, I:36-37.

<sup>12</sup>Vico, Ancient Wisdom, p. 68.

<sup>13</sup>In comparison, Descartes maintains that the sensation of pain resides in man's brain. In The Principles of Philosophy, he writes: "It is however easily proved that the soul feels those things that affect the body not in so far as it is in each member of the body, but only in so far as it is in the brain, where the nerves by their movements convey to it the diverse actions of the external objects which touch the parts of the body [in which they are



inserted]. For, in the first place, there are many maladies which, though they affect the brain alone, yet either disorder or altogether take away from us the use of our sense; just like sleep itself which affects the brain alone, and yet every day takes from us during a great part of our time the faculty of perception, which is afterwards restored to us on awakening. Secondly, from the fact that though the brain be healthy [as well as the members in which the organs of the external senses are to be found], if the paths by which the nerves pass from the external parts to the brain are obstructed, that sensation is lost in these external parts of the body. And finally we sometimes feel pain as though it were in certain of our members, and yet its cause is not in these members where it is felt, but in others through which the nerves pass that extend to the brain from the parts where the pain is felt. And this I could prove by innumerable experiments; here, however, one will suffice. When a girl suffering from a serious affection of the hand was visited by the surgeon, her eyes were usually bandaged lest seeing the dressing should have a bad effect upon her. After some days, as gangrene set in, her arm had to be cut off from the elbow and several linen cloths tied together were substituted in place of the amputated limb, in such a way that she was quite ignorant of what had been done; meanwhile, however, she had various pains, sometimes in one of the fingers of the hand which was cut off, and sometimes in another. This could clearly only happen because the nerves which previously had been carried all the way from the brain to the hand, and afterwards terminated in the arm near the elbow, were there affected in the same way as it was their function to be stimulated for the purpose of impressing on the mind residing in the brain the sensation of pain in this and that finger. [And this shows clearly that pain in the hand is not felt by the mind inasmuch as it is in the hand, but as it is in the brain]." Descartes, Works, I:293-294.

<sup>14</sup>Descartes also thought that memory is the faculty which retains and recalls what is perceived by the senses. See Descartes, Works, I:38-39.

<sup>15</sup>Vico, Ancient Wisdom, p. 69.

<sup>16</sup>Ibid., p. 69.

<sup>17</sup>Descartes, Works, I:147.

<sup>18</sup>Vico, Ancient Wisdom, p. 69.

<sup>19</sup>Ibid., p. 69.

<sup>20</sup>Ibid., pp. 69-76.

<sup>21</sup>Ibid., pp. 69-76. See also Pompa's remarks, n. 15, pp. 69-70.

<sup>22</sup>Ibid., p. 70.

<sup>23</sup>Ibid., p. 51.

<sup>24</sup>S.N. 498. Translation slightly modified.

<sup>25</sup>Vico, Ancient Wisdom, p. 70.

<sup>26</sup>S.N. 688.

<sup>27</sup>S.N. 213.

<sup>28</sup>See Collingwood, The Idea of History, pp. 63-71, and Croce, The Philosophy of Giambattista Vico, ch. 1 and 2.

<sup>29</sup>Descartes, Works, I:3.

<sup>30</sup>Ibid., I:47.

<sup>31</sup>Ibid., I:10.

<sup>32</sup>Ibid., I:7.

<sup>33</sup>Ibid., I:33.

<sup>34</sup>Ibid., I:33. Descartes calls the object of intuition a "simple nature" because it is presented to the mind only when it is simple and clear and distinct and not when it is complex and involved. He then distinguishes three classes of simple natures: those which are purely intellectual, i.e., the constituent elements of mind, such as knowing, doubting, and willing; those which are discerned only in bodies, such as figure, extension, and motion; and those which are common to both mind and matter, such as existence, unity, and duration. Though they seem to serve a purely epistemological function, in that from their apprehension we gain knowledge, simple natures are not, for Descartes, merely intellectual constructs. Rather, they are, in so far as mind and body are real existents, elements of real things because they are, in principle, inseparable from mind and body respectfully.

<sup>35</sup>Ibid., I:8.

<sup>36</sup>Ibid., I:7-8. Though the conclusions themselves are furnished only by deduction, once the deductive process has been completed, it is then possible, according to Descartes, to grasp the truth apprehended by the entire process in one simple intuition. See Descartes, Works, I:8 and 21.

<sup>37</sup>Ibid., I:5.

<sup>38</sup>Ibid., I:92.

<sup>39</sup>Ibid., I:309.

<sup>40</sup>Ibid., I:83.

<sup>41</sup>Ibid., I:84.

<sup>42</sup>Ibid., I:84-85.

<sup>43</sup>Nicolas Malebranche, The Search after Truth, trans. Thomas M. Lennon and Paul J. Olscamp (Columbus, 1980), p. 298.

<sup>44</sup>Ibid., p. 140.

<sup>45</sup>Cited from the chapter "Nuova scientia tentatur" of the Universal Law by Bergin and Fisch in the Introduction to The Autobiography. p. 37.

<sup>46</sup>Vico, On the Study Methods of our Time, trans, Elio Gianturco (Indianapolis, 1965), p. 23. Vico himself did not invent this doctrine. Various thinkers, such as St. Thomas Aquinas, Ficino, and Pico della Mirandola, held some version of this doctrine, largely on account of the belief they shared about the nature of God as creator and knower -- a belief which Vico also shares. One immediate predecessor who definitely based his conception of science on the connection between demonstrare and facere was Hobbes, with whose works Vico was in all probability familiar: "Geometry is therefore demonstrable, for the lines and figures from which we reason are drawn and described by ourselves; and civil philosophy is demonstrable, because we make the commonwealth ourselves. But because of natural bodies we know not the construction, but seek it from effects, there

lies no demonstration of what the causes be we seek for, but only of what they may be." Six lessons to the professors or mathematics, English Works, ed. Molesworth (London, 1839), VII: 183-184. But Hobbes, unlike Vico, never thought of applying this doctrine to history. For Hobbes conceived history as an inferior form of knowledge founded on sense, memory, and testimony with all their fallibility. As a mere register of facts derived from experience and authority, it is beneath the level of science or philosophy, which proceed deductively by strict reasoning on causes and effects. See the De corpore, English Works, I: ch. 1.

<sup>47</sup>Vico, Ancient Wisdom, pp. 50-51.

<sup>48</sup>James Morrison, "Vico's Principle of Verum is Factum and the Problem of Historicism", Journal of the History of Ideas 34 (1978): 579-595.

<sup>49</sup>Ibid., p. 582.

<sup>50</sup>Ibid., p. 582.

<sup>51</sup>Ibid., p. 582.

<sup>52</sup>Vico, Ancient Wisdom, p. 55. Emphasis added.

<sup>53</sup>Ibid., p. 56. Emphasis added.

<sup>54</sup>Morrison, "Verum is Factum", p. 582.

<sup>55</sup>Ibid., p. 582.

<sup>56</sup>Ibid., p. 582. Nikhil Bhattacharya claims that the verum-factum principle is nonsensical precisely because it is not consistent with the Correspondence Theory of Truth.

But Bhattacharya has failed to recognise the significance of the distinction between the true and truth and thus simply conflates them, thereby confusing his whole interpretation of Vico's theory of knowledge. See Nikhil Bhattacharya, "knowledge 'Per Caussas': Vico's Theory of Natural Science", Vico: Past and Present, ed. Giorgio Tagliacozzo (Atlantic Highlands, 1981), pp. 182-197.

<sup>57</sup>Vico, Ancient Wisdom, pp. 51-52.

<sup>58</sup>Ibid., pp. 59-60. Vico uses the terms "mode", "form", and "genus" more or less interchangeably.

<sup>59</sup>Vico, Ancient Wisdom, p. 64. Translation slightly modified.

<sup>60</sup>Morrison, "Verum is Factum", p. 584.

<sup>61</sup>Vico, Ancient Wisdom, p. 64.

<sup>62</sup>Ibid., p. 60.

<sup>63</sup>Ibid., p. 51.

<sup>64</sup>Morrison, "Verum is Factum", p. 583.

<sup>65</sup>Vico, Ancient Wisdom, p. 76.

<sup>66</sup>Ibid., p. 51.

<sup>67</sup>Ibid., pp. 51-52.

<sup>68</sup>Ibid., p. 51.

<sup>69</sup>Ibid., p. 54.

<sup>70</sup>Ibid., p. 54.

<sup>71</sup>Ibid., p. 54.

<sup>72</sup>Ibid., p. 68.

<sup>73</sup>Ibid., p. 65.

<sup>74</sup>Vico, Study Methods, p. 23.

<sup>75</sup>Vico, Ancient Wisdom, p. 58.

<sup>76</sup>Ibid., p. 55.

<sup>77</sup>Ibid., p. 59.

<sup>78</sup>S.N. 163.

<sup>79</sup>S.N. 321.

<sup>80</sup>S.N. 138 and 139.

<sup>81</sup>S.N. 140.

<sup>82</sup>S.N. 359.

<sup>83</sup>S.N. 331.

<sup>84</sup>S.N. 349.

<sup>85</sup>S.N. 349.

<sup>86</sup>S.N. 314.

<sup>87</sup>S.N. 338.

<sup>88</sup>S.N. 147. See Chapter II above.

<sup>89</sup>S.N. 374-375.

<sup>90</sup>S.N. 377 and 378.

<sup>91</sup>"Let us consider and meditate on the simplicity and naturalness with which providence orders the institutions of men...Then let us ask ourselves if, among all human possibilities, so many and such diverse institutions could in any other way have had simpler or more natural beginnings among those very men who are said by Epicurus to have been born of chance and by Zeno to have been creatures of necessity. Yet chance did not divert them nor fate force them out of this natural order. For at the point where the commonwealths were to spring forth, the matters were all prepared and ready to receive the form, and there issued from them the format of the commonwealths, composed of mind and body. The prepared matters were these men's own religions, their own languages, their own lands, their own nuptials, their own names (clans or houses), their own arms, and hence their own dominions, their own magistrates, and finally their own laws. And because all these were their own they were completely free and therefore constitutive of true commonwealths." S.N. 630.

<sup>92</sup>S.N. 333 and 360.

<sup>93</sup>S.N. Book 4.

<sup>94</sup>Grotius, Hobbes, Selden, and Pufendorf.

<sup>95</sup>Bergin and Fisch, Introduction to Scienza Nuova, M7.

<sup>96</sup>S.N. 367. Emphasis added.



<sup>97</sup>S.N. 692. Emphasis added.

<sup>98</sup>Morrison, "Verum is Factum", p. 594.

<sup>99</sup>S.N. 692.

<sup>100</sup>S.N. 520.

<sup>101</sup>S.N. 521.

<sup>102</sup>Bergin and Fisch, Introduction to Scienza Nuova, C6.

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