CHARLES DE MEDICI.

BY ALBERT L. LEUBUSCHER.

SOME thirty-five years ago, the writer, while seated in a horse-car absorbed in reading a booklet entitled *The Art of Conversation,* was suddenly startled by hearing in a loud and dogmatic tone, "That is wrong!" Glancing up he encountered the brilliant gaze of a "phenomenon": a short man, with flowing locks, a large head, surmounted by a hat of enormous brim. He wore a long Prince Albert coat and a dark, flaring tie. "What is wrong?" ventured the interrupted one. "That title is wrong. Art concerns itself with *process.* Therefore the caption should be: 'The Art of *Conversing*'!"

The car was nearing our respective destinations, but in the few minutes that intervened before we parted, we had a "conversation" that I shall never forget. He got out at eighth street to go to Science Hall, the city's *rendez-vous* for liberals and radicals in religion and philosophy.

Some twenty years after this incident, in making a business call to secure some advertising I had observed in a magazine, I again found myself in the presence of Dr. Charles de Medici. The room I entered was filled with mathematical, chemical, and astronomical appliances. Paper crysanthemums and floral pictures on the left wall, veritable dust catchers, at once repelled; while the fresh and blooming flowers at the center table and in the window, charmed me. In front, at the right wall, surmounting a glass case filled with jars, were colossal busts of Plato and Socrates. Near these a life-size crayon of Dr. Charles de Medici looked down in meditative greeting. Next to this portrait was a half-life size engraving of Garibaldi, "looking enough to be a twin of his admirer." Numerous heads cut from magazines were pasted around this latter, heads of scientists and statesmen. The floor was strewn with books and papers.

I recognized the "phenomenon" of the vanished years. Business was forgotten; the new discovery in mathematics, "Commensuration," absorbed the attention, and the writer came away with a large book in paper covers, *Groundwork of Classification, an Abstract from the Commensurational System, with a Panorama of Evolution and an Exposition of Darwinism and Theology—conciliated,* by Chas. de Medici, New York, 1880; and a copy of part one of Section A of his *Rational Mathematics.*

Five or more years afterwards, seeing an account in a local paper of a mathematical genius who had established a studio at the Mercantile Library building, and had sent out a challenge to the world to call and disprove his mathematical discoveries or be converted,—the writer again called, found his erstwhile friend, but found him neglected by the "world." Then was formed a friendship that proved to be of intellectual and pecuniary advantage to both as the years rolled on.

On May 31, 1903, Dr. Charles de Medici "passed out," in abject poverty, broken-hearted, and deserted by all except his devoted wife and faithful physician. Within a few months of his end,—owing to unmerited indignity at his hands, occasioned, in a measure, by the nervous irritation of an enfeebled system and by the lees of bitter disappointment,—even the writer had temporarily deserted him, not realizing the nearness of his end. But with his expiring breath and filming eyes he still referred to the acclaim and radiant joy with which his discoveries would one day be greeted by a once indifferent world.

Dr. Charles de Medici is a lineal descendent of Lorenzo de Medici, the Prince of Florence, surnamed "The Magnificent." He was born at Copenhagen, Denmark, in 1828, and was educated at the university of his native city. Before he was twenty-one he was a revolutionist and political agitator. His family, being aristocrats, came to regard him as a really dangerous lunatic, but he managed to escape their vigilance, and went to Germany, and then to St. Petersburg, where he acquired the English language, which he learned to speak and write with great fluency. From St. Petersburg he drifted to East India, and entered the service of the East India Company as surgeon. When gold was discovered in the fifties in Australia he went there for adventure, not for wealth. After a short experience at Ballarat and Bendigo, he returned to his native place, Copenhagen. From there he went to Chicago, where he practiced medicine until burned out by the Chicago fire. Then he drifted to Boston, where, he says, he found so many cranks to the

square inch, that he felt there was no place or room for him; and he decided to try New York City, which became his permanent abiding place.

In 1894 he attracted the attention of the daily press, which gave several lengthy interviews with him concerning his scientific discoveries and educational devices. One periodical described him as "unquestionably one of the most interesting and picturesque per-

DE MEDICI'S MONTHEON.

sonalities of New York." The *New York Press* of May 19, 1894, had a lengthy illustrated interview with him, in which it says, "he claims that discoveries, which he has made, will mark an epoch in the science of mathematics, just as did the discoveries of Aristotle, of Pythagoras, of Euclid, of Legendre. 'I do not anticipate that my discoveries will be appreciated during my life-time,' said Dr.

de Medici to me yesterday (and he spoke cheerfully, as if to say, I should continue my researches even if I knew I should never realize for a moment the result of anything I have done)—'but I have so arranged everything, and so planned everything, that all of my discoveries can be availed of posthumously. My papers, my charts, my plans, my work, will be found in perfect order at the time of my death.' "

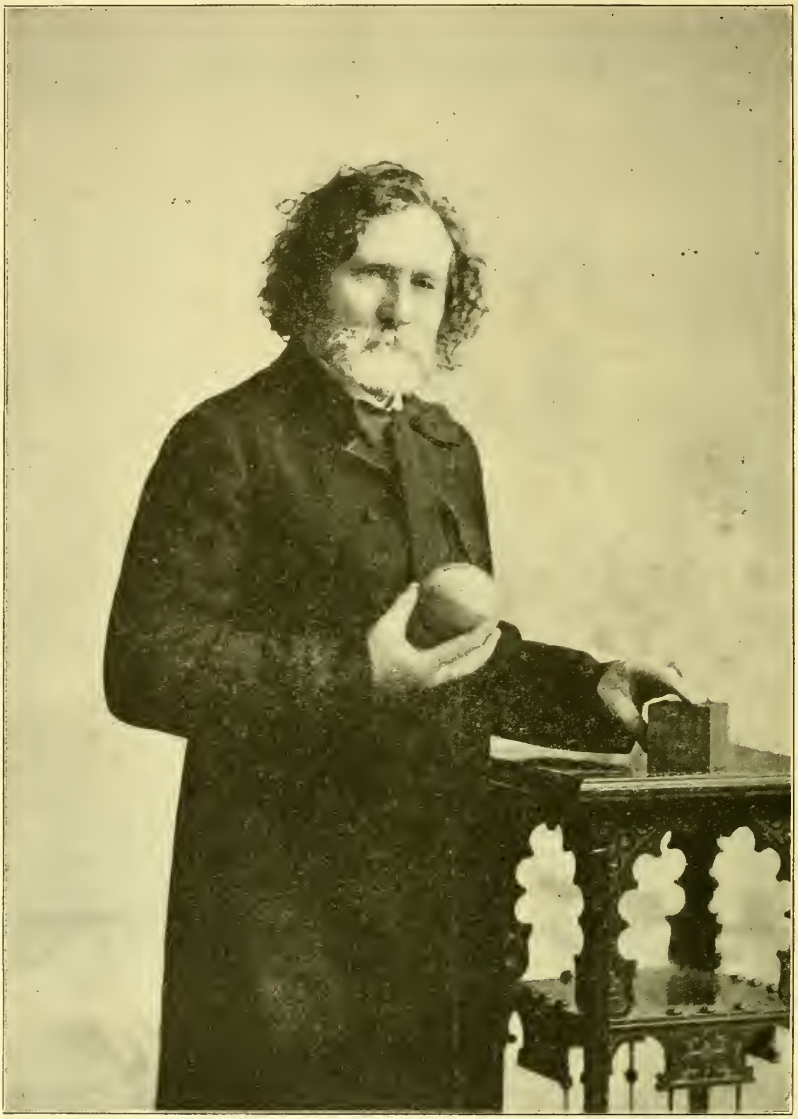
"Here," said Dr. de Medici, "is the monument which I wish placed on my grave when I am gone," and he produced a lot of blocks, with which he proceeded to build the monument, the photograph of which is here reproduced. "All I ask my friends, when I am gone, is that they shall see that this monument is erected above my dust."

This monument, in its various sections and relations, represents the geometrical discoveries claimed by Dr. Charles de Medici. He has discovered, as he elsewhere demonstrates, an exact metric system, doing away with the "infinitesimal indefiniteness" of Legendre's logarithms, which he declares to be decidedly *"finitesimal"* when applied in practice. He has discovered "the Surd law" and "Commensurational Arithmetic," which involve the squaring of the circle and the cubing of the sphere; and as a result of these discoveries, he has "constructed instruments that will revolutionize, perfect, and make exact, navigation and the investigation of the student of astronomy."

In the *Phrenological Journal* for November 1894, there is a fine characteristic portrait of the Doctor, with a short sketch by the editor, who knew him. The editor says that Dr. de Medici "is a delightful companion, generous, happy, winsome, healthy, buoyant, and enthusiastic. He is very modest, and though frank and open in communicating his opinions to appreciative listeners, he is remarkably free from obtrusiveness. The portrait shows a remarkable length of brain forward from the ears. The frontal lobes are exceedingly symmetrical as well as capacious. His expression in conversation is benign, genial and radiant with kindliness and good humor."

Another periodical described him as follows: "Personally, Dr. de Medici is one of the most delightful of individuals. . . . Although a sexagenarian, his cheeks are as plump and rosy as a school-boy's, his eye gleams with the light of youth and enthusiasm, and every movement denotes agility and health. He is best described by saying that his face is full of sunshine, and he looks like an innocent and happy countryman, honest himself, and not dreaming of deceit

in others. That this winsome, boylike man has made and sunk fortunes; that he has studied hard for forty years in the development



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of his abstruse science, that he has wrestled with leaders of thought in many lands and languages, is not at all strange....And the

childishness reflects not the intellect, but the purity and truth and loveliness of a great nature, whose highest aspiration is to benefit mankind."

I am unable, just at present, to gain access to Dr. de Medici's private papers, unpublished manuscripts, and scrap-books. When these are examined several gaps in his biography will doubtless be supplied. Among these gaps is his activity, in the early seventies, for Mrs. Elizabeth Thompson, the philanthropist, as secretary. During this period was projected "The Harvest Home of Genius,"—his arguments in favor of which, and its constitution and by-laws, also the statement he made concerning the Montheon Society which he then organized, and its plan and prospectus, which he drew,—make very interesting reading, and should form a separate chapter in this story of his career and works. Mrs. Elizabeth Thompson unfortunately for the success of these enterprises, lost her fortune, and died before any of Dr. de Medici's plans could be realized.

What a singular irony of fate do these documents now exhibit in the light of subsequent events! That the real conceiver of the "Carnegie Institution"—a genius *par excellence,* meriting a pension from its fund if any human being ever merited one,—that he should be turned away from its doors when he knocked for admittance; that he should be ignored and left to die in obscurity and poverty, broken in spirit by frustrated hope and the neglect of the world, is a tragedy for history to contemplate, is indeed its author's most cogent argument for a *real* "Harvest Home of Genius."

Mrs. de Medici informs me that a copy of this document concerning the "Harvest Home of Genius" was sent to Mr. Andrew Carnegie by messenger; and Dr. de Medici on several occasions claimed to the writer that Mr. Carnegie had derived his idea for his "Institution" from this very conception of the "Harvest Home of Genius."

Shortly after the opening of the Carnegie Institution the writer presented the claims of Dr. Charles de Medici for a grant that would enable him to exploit his great, epoch-making discoveries. A number of letters were exchanged, when the writer was invited to forward a set of the Doctor's writings. This was done, accompanied by a brief statement, prepared by the Doctor, of his discoveries; his educational devices and toys; his Panometer for the use of astronomers; his "Metrometer"; his carefully-elaborated set of models of weights and measures based on universal metrology, etc., etc.

About six months later I received a printed "circular letter" to

the effect that Dr. de Medici's claim for a grant could not be considered inasmuch as there were too many applicants for subsidies, etc. I at once retorted with an emphatic protest at such an unconcerned dismissal of the Doctor's transcendent claims, a dismissal without consideration or examination, and stated that if these claims were honestly examined by capable and broadminded mathematicians I had no fear whatever of the result; but that since the usual run of mathematicians had shut the door of their minds in the face of such claims as those made by Dr. de Medici, it were well for the committee to seek for a competent mathematician, *one that would not prejudge these claims,* but would give them a genuine examination; and I accompanied this suggestion with a further allusion to the nature of these claims, in a paragraph or two. The reply to this protest was that President Gilman would himself look into these claims; but that it was desirable to have the Doctor prepare a resumé of his discoveries. Notwithstanding that a full set of the Doctor's books and leaflets had been sent them, as well as an outline of his claims, the Doctor readily assented, and worked at the resumé during the summer months after a long spell of illness which had left him greatly debilitated.

On the completion of his resumé he prepared to go to Washington, to demonstrate his system in person, fearing that President Gilman would not tackle the problem in the right way, judging from the uniform experience he had had with mathematicians like Edwards, Chase, and others.

The Doctor made many sacrifices to secure enough money to fit himself out, but after he was all ready, his debility was such that he had to abandon all hope, and in despair he lay down and died of a broken heart. The archives of the Carnegie Institution still preserves the literature of Dr. Charles de Medici; and no word has ever been received from it since the date of their last letter to me, to which I have referred.

It was early in 1894, I think, that Dr. de Medici retired from business to devote his energies to establishing his discoveries, educational devices, and inventions. He had then a snug fortune, realized from a business enterprise. On retiring he proceeded to sink his money in the composition and plating of his books and diagrams; in the production of his educational devices, toys, models for weights and measures (founded on universal metrology); and on his various inventions. He also made an attempt to revive an interest in his project for the "Harvest Home of Genius" and in the "Montheon School." His efforts in behalf of these, it seems, were premature.

So were also his public challenges concerning his mathematical discoveries.

Dr. de Medici's actual publications, outside of his mathematical books are few. There are, however, a number of unpublished manuscripts, one of them a work of fiction. The earliest literary work of his that I have been able to trace is a pamphlet entitled *Humanity*. This seems to have been followed by *Groundwork of Classification* (the full title of which is given above). It is a thin paperbound book, 9½×12 inches, evidently a crude adumbration of a large work the Doctor had projected, and seems to have been composed at a much earlier period. It evinces more original thought than extensive reading on the great problems of science, metaphysics and philosophy. Had not his attention been preoccupied with his mathematical discoveries and educational devices, he would probably have elaborated the line of thought he had projected in this treatise. As it is, I doubt greatly that he did any systematic work in this direction, though I recall finding him at work on one occasion, on an essay on "*Chaos and Cosmos,*" which he treats in this book.

Both of these early works are out of print, only one copy of *Humanity* is known to be in existence; of *Groundwork of Classification* possibly a dozen copies are among his effects.

The Two Lunatics is an ironical and humorous skit, satirizing certain lines of philosophic thought and certain inequities involved in our social and economic immaturity. Several hundred copies of this, in paper covers, remain undisposed of.

He continued to write a little after the publication of his mathematical system; and he wrote more before,—so there are probably a number of manuscripts, some of which may be of value.

After the publication of his *New Geometry* he devoted his attention to the perfection of his system, by having physical models made to illustrate its principles. During his last ten years he devoted some of his time to the construction of mathematical charts, diagrams and tables.

Like most innovators, Dr. de Medici acted on the supposition that he was an irresistible force, and did not, in consequence, realize until too late, that the stubborn stability of inertia constituted an immovable body in his path. When he issued the first two sections (A and B) of *Rational Mathematics* in parts, he confidently anticipated their immediate adoption by the schools of the country. He put a very low price on them, and sent a large number of samples of the first two parts to teachers of mathematics all over the United

States. The answer was Silence unbroken and deepening as the days came and went.

Of Part 1 of Section A only a few copies remain. Of the other parts, and of Section B there are quite a number of copies on hand. Of Section C, devoted to the "Surd Law" and "Commensurational Arithmetic," there are only two or three sets of *page proofs* of two out of the five parts projected. The other three parts positively exist in manuscript, and include the tables and diagrams on which he had worked up to the year before his death. He declared a number of times in his last days, that the mathematical work he had projected was completed.

There are, I understand, plates for everything mathematical published, and these plates require but very few corrections.

The Doctor bemoaned the fact, many times, that he could not get the dyed-in-the-wool mathematician to use a ruler and compass, and to disuse the decimal notation and logarithms. They would persist in judging his radical discoveries by methods that were acknowledged to be false. They would also persist in considering isolated problems here and there, and would not take the trouble to examine his system in detail or as a whole. Whenever mathematicians consulted him personally, however, which occasionally happened; and when they, in his presence made use of the ruler and compass, they invariably found the exposition of problems, as given in his booklets, intelligible, definitive, and convincing. They then saw that the understanding of that exposition was contingent upon the progressive construction of diagrams, which he had urged upon the student with tireless persistence. And it was also seen that his occasional departure from the usual definitions and terminology was largely due to, or in keeping with, his unique discovery, method, and results, and not because he was ignorant of the literature of the subject, for few had a more extensive knowledge of that literature than he.

Dr. de Medici made no attack on any "accredited body of doctrines." He was concerned solely with unconfirmed resolutions, with moot questions, with open problems, the solution of which involved at least two practical results of the utmost importance: (1) "commensurational arithmetic"; and (2) the possible construction hereafter of "mathematically" exact (instead of, as now, merely approximately exact) instruments in many lines of science and art, especially in astronomy, surveying, architecture, engineering, and mechanics.

It has seemed to me at times that the Doctor would have got

a better hearing had he presented his unique discoveries in magazine articles, or in an advanced treatise addressed to mathematicians, and had not attempted to obtrude elementary school treatises, containing radical innovations, upon the attention of educators. Had he pursued this course he would doubtless have brought on a discussion, with the inevitable result of the acceptance of the discoveries, by some noted professors, which acceptance would have given the system prestige. In the form in which they were published, however, educators and mathematicians ignored these elementary treatises that were sent to them, which treatises, "unbeknownst" to them, contained some gems of inestimable value.

I cannot better conclude this cursory sketch of the career and claims of an unknown but remarkable genius, than by presenting the reader with the following lucubration written by him on the advent of his transcendent

DISCOVERY OF THE TRUE PI-VALUE.

The city was wrapped in quiet. Prude citizens slumbered in the embrace of night. The finger of a clock pointed to 6; and the wintry morn of the 8th of January, 1881, longed to be unfolded from its twilight shroud, so it could pose in modest robe of dawn. Awake, alone, and in silence, a worker, absorbed in depths of thought, transfixedly gazed on a few figures which among many others stood out in bold relief, breathing, as it were, secrets of the mystic shrine.

More and more these figures appeared alive; and more and more forcibly were the numbers 4 and 5 impressed. Then recollections of 2, 8, and 9 swept through the agitated brain, and the fraction sought for more than two thousand years was found at last. Like a luminous star the discovery lit up the clouded record of mathematical research and spread joy in the mind of the man who first was permitted to break the seal and use the key which God alone had used before.

But, "Can it be true?" Perhaps it is but a wild fantasy born of a too zealous desire to succeed....A dizzy reel; then a chilling tremor of emotions crept through the frame of the man and flushed the cheeks with a crimson blush, the blush of departing hope. A sickly smile of growing doubt cast shadows where just before the mien was heaven lit.

How could one mortal hope to have found in labyrinthic maze the way to link knowledge divine to human understanding, while countless authorities, high and low, proclaimed such a find impossible. Yet, the humble worker's mind was stirred by God-like faith, and boldly he strove to convince himself that he was but an instrument made fit, by accident or by design, of Jehovah's will to act as mediator between sophistry and science.

Thus the night passed in hope and fear, and the early dawn found the discoverer of perfect "pi" transported into dreams in which he saw the glory and felt the bliss of sublime victory.