



# *poche parole*

The Italian Cultural Society of Washington D.C.  
*Preserving and Promoting Italian Culture for All*

[www.italianculturalsociety.org](http://www.italianculturalsociety.org)

## ICS EVENTS

**Social meetings start at 3:00 PM on the third Sunday of the month (except this January and February), September thru May, at the Friendship Heights Village Center, 4433 South Park Ave., Chevy Chase, MD (See map on back cover)**

**Sunday, February 12:** (Note the date) **CARNEVALE!! CONTRA DANCING ITALIAN STYLE—LA QUADRIGLIA etc. (See page 10.)**

**Sunday, March 18:** We are excited to have Dr. William D. Phillips, Nobel Prize winning physicist at NIST whose mother hailed from Ripacandida, Basilicata. He will describe his work on the atomic clock and related activities with the aid of live demonstrations. (See page 10)

**There will be no Movie of the Month or Italian Lessons on February 12**

## PRESIDENT'S MESSAGE

With the passing of Cesarina Horing, the Italian Cultural Society loses its Treasurer and so much more. Working a typical 70-80 h week, even up to her last days, Cesarina was the very heart and soul of the Italian Language Program, dealing with all its intricacies with amazing competence. This program is one of the reasons for our very existence as a society, as many of us who are its alumni can attest. We students all met Cesarina in the same way: the woman who with exquisite manners graciously welcomed us, put us into our starting classes and guided us on our way. We shall not easily find someone to simply step into her shoes. Let us keep her inspiration with us as we move forward.

We are working hard to make a smooth transition, and want to assure all of you that our various language programs and social events will continue as before.

Our January social meeting featured Italian artist Davide Prete displaying his fine talents in a remarkable variety of media and artforms, all the while explaining how an artist thinks as he works.

Our February meeting will be our annual Carnevale celebration. This year we return to the afternoon party suitable for our children as well as for our adults. Janine Smith with accompanying musicians will guide us through contra-dance steps as we celebrate. Please be sure to join us and bring your friends.

Building on a tradition we began in the fall of 2009, we bring a world famous physicist, Dr. William Phillips, to speak at our March meeting. Please read the article about him in this issue.

*Ron Cappelletti*, president



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## **Eulogy at the Requiem Mass for Cav. Cesarina Horing**

*Dear Cesarina:*

*Thank you for taking on the huge task of directing the Italian language program, a task that you inherited from our Maria Wilmeth and that you have executed with effectiveness, pride and confidence.*

*Thank you for being its motivator and mover.*

*Thank you for the love of the 3,000 students in schools throughout the Washington Metropolitan area: Their training in the Italian Language you took on as your mission in life: They and their teachers are very grateful to you.*

*Thank you for performing the various tasks for which the Italian Cultural Society and the Embassy of Italy have depended on you for the past 16 years, as Ministro Cristiano Maggipinto and professoressa Lucia Dalla Monta' can certainly attest to.*

*Further, and on behalf of Professor Roberto Severino and myself, I can certainly say that The National Endowment for the Humanities Institute on "The Art of teaching Italian through Italian Art" could not have taken place without your help and commitment and the help and commitment of Signora Flavia Colombo, who also doubled in as a loving daughter to you in your last days. Thank you Flavia!*

*Dear Cesarina:*

*Thank you for your sense of humor and care for the children, which you showed beautifully even in your small acts of love, as when you helped Santa deliver the gifts to the children and when you impersonated the Italian figure of the Befana at the ICS Christmas parties.*

*As one who has had the opportunity to observe you over the past 16 years I must say that you have been a wonderful teacher for all of us as well, for we have learned from your energy, from your hard work, from your sense of commitment, from your uncompromising honesty and from your confident elegance and gentility. But your most significant teaching has been in my opinion that one should never come to conclusions without having all the elements at hand that constitute a complex situation. You always did have that knowledge and brought it to the table in our Board meetings and in other aspects of life.*

*It is very difficult for those of us who need to continue functioning in the residence of the Italian language program, either as teachers, as Board members, and administrators and as colleagues, to do so without missing you terribly and feeling disoriented. On the other hand we need to continue with even higher energy and sense of commitment if we want to follow in your tracks.*

*Thank you for being with us in difficult and in joyous times;*

*For your interest in our endeavors and for your encouragement;*

*We are privileged to be your friends and have your support.*

*Dear Cesarina, we miss you!*

**Prof. Luigi DeLuca, past president, ICS.**

### **Obituary**

Cesarina Chiarappa Horing of Chevy Chase, MD passed away after a brief illness on Saturday, January 14, 2012. She was the director of the Italian Language Program (ILP) of the Italian Cultural Society of Washington, DC (ICS). Cesarina was born in Rovereto, Italy on September 18, 1932, the last of five children, to Maria Ciocchi Chiarappa and an American father of Italian origin, Nicola Giorgio (George) Chiarappa. She grew up in Rome, earned a degree for teaching at the elementary school level and taught at a private Catholic school. Shortly after, her family moved to New York City where she studied business administration and worked in various Italian companies having offices in N.Y.

She married Prof. Norman J. Horing and moved to Washington, DC where her son Joseph was born. In the nineteen sixties Cesarina moved back to Italy,

### **Obituario**

Cesarina Chiarappa Horing e' mancata sabato 14 gennaio 2012 dopo breve malattia. Nata a Rovereto, provincia di Trento, il 18 settembre 1932, ultima dei cinque figli di Maria Ciocchi Chiarappa e Nicola Giorgio (George) Chiarappa, un americano di origine italiana. Cesarina era il Direttore del Programma di Lingua Italiana (ILP) della Societa' di Cultura Italiana (ICS) di Washington DC. Cresciuta a Roma, conseguì la maturita' magistrale per l'insegnamento alle scuole elementari e insegno' in una scuola privata cattolica. Poco dopo la sua famiglia si trasferì a New York dove Cesarina studio' Business Administration e lavoro' presso varie societa' italiane che avevano uffici a New York.

Sposo' il prof. Norman J. Horing e si trasferì a Washington DC dove nacque il figlio Joseph. Negli anni '60 Cesarina rientro' in Italia stabilendosi a Milano. In

settling in Milan. In Milan she founded and very successfully directed the "Centro Linguistico" for over 25 years. In addition to offering eight languages, it was the first school in Milan to programmatically include an hour of audio-visual interactive language laboratory for each hour of lessons, and to use multimedia and "realia" (untranslatable culturally-specific expressions) in the classroom. The school designed and developed in-company courses for such businesses as ENI, Montedison, Banca Nazionale del Lavoro, etc. It also prepared a special course of Italian as a Second Language, adopted by the city of Milan, for children of recent immigrants entering the public elementary schools. Cesarina also created, and for several years ran, the Foreign Language Written Exams (three languages) of a nation-wide test (concorso) for applicants to "Monte dei Paschi di Siena" one of Italy's major banks.

While traveling in Washington after retirement, Cesarina met Dr. Maria Wilmeth, Director of the ILP. Wilmeth was also directing the language program at the USDA Graduate School, parallel to what Cesarina had been doing in Italy. Maria asked her to help the Education Director at the Italian Embassy to prepare a seminar on "Assessment" for students of Italian. Cesarina agreed as a volunteer. In addition to the seminar, the Education Office and the Italian Ministry of Foreign Affairs had another very important project: the promotion of the Italian language and Culture in American Schools. Again, as a volunteer, she worked out all the details with the Embassy and Maria Wilmeth and finally, one year later in September 1996, the first course of Italian was opened in a Middle School in Maryland's Prince Georges' County. Cesarina was then hired by the ILP to coordinate its learning programs, and later became its director. About 60 schools in the Washington metropolitan area have since placed the Italian language into their curricula. The ILP also provides the flourishing Language Program for adults and for children at its Bethesda headquarters and several venues in the area.

In recognition of her commitment to the success of all activities of the Italian Cultural Society, in 2006 the President of the Republic of Italy made Cesarina Knight of the Order of the Star of the Italian Solidarity.

Cesarina is survived by her son Joseph D. Horing, her brother Nicholas G. Cori and her sister Elvira Chiarappa de Micheroux, and was preceded in death by siblings Dino P. Chiarappa and Herbert H. Chiarappa.

In lieu of flowers, donations for the Cesarina Horing scholarship fund can be made to the Italian Cultural Society, 4827 Rugby Ave., Suite 301, Bethesda, MD 20814.

quella città fondo' e diresse per 25 anni con gran successo il "Centro Linguistico". Il Centro, che offriva l'insegnamento di otto lingue straniere, era la prima scuola di Milano che comprendeva nel programma un'ora di laboratorio linguistico audio-visivo interattivo per ogni ora di lezione ed usava in classe sistemi multimediali e "realia" (espressione specifica intraducibile). La scuola ideò e sviluppò corsi interni presso società quali ENI, Montedison, Banca Nazionale del Lavoro, etc. Inoltre sviluppò un corso speciale di italiano per figli di recenti immigrati iscritti alle scuole elementari pubbliche, programma che venne adottato dalla città di Milano. Cesarina anche ideò e diresse per molti anni gli esami scritti di lingua straniera (tre lingue) dei concorsi nazionali per coloro che cercavano lavoro al "Monte dei Paschi di Siena", una delle maggiori banche italiane.

Dopo essere andata in pensione, Cesarina incontrò durante un suo viaggio a Washington DC la Dott. Maria Wilmeth, Direttore di ILP. Maria Wilmeth dirigeva il programma di lingue alla Scuola post universitaria della USDA, programma simile a quello che Cesarina aveva creato in Italia. Maria le chiese di aiutare il Direttore dell'Istruzione dell'Ambasciata Italiana a preparare un seminario sulla "valutazione" degli studenti di italiano e Cesarina accettò l'incarico come volontaria. In aggiunta al seminario, l'Ufficio Scuola ed il Ministero degli Esteri avevano un altro progetto importante: promuovere la lingua e la cultura italiana nelle scuole americane. Sempre come volontaria, assieme all'Ambasciata ed a Maria Wilmeth, Cesarina mise a punto tutti i dettagli del programma finché un anno dopo, nel settembre 1996, venne istituito il primo corso di italiano in una scuola media nella Contea di Prince Georges, in Maryland. Cesarina venne allora assunta dall'ILP per coordinare i programmi di studio, diventandone in seguito il Direttore. Circa 60 scuole nell'area metropolitana di Washington hanno incluso programmi di lingua italiana nel loro curriculum. ILP offre pure il suo rinomato programma di lingua italiana per adulti e bambini nella sua sede di Bethesda ed in varie altre località della zona metropolitana.

In riconoscimento per la sua dedizione al successo di tutte le iniziative della Società di Cultura Italiana, Il Presidente della Repubblica Italiana ha conferito a Cesarina il titolo di Cavaliere dell'ordine della Stella della Solidarietà Italiana.

Cesarina lascia il figlio, Joseph D. Horing, il fratello Nicholas G. Cori e la sorella Elvira Chiarappa de Micheroux ed è stata preceduta nella morte dai fratelli Dino P. Chiarappa e Herbert H. Chiarappa.

Invece di fiori, sono gradite donazioni alla Borsa di Studio Cesarina Horing inviando un assegno alla Italian Cultural Society, 4827 Rugby Avenue, Suite 301, Bethesda, MD 20814

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**WELCOME TO NEW ICS MEMBERS**

It is with great pleasure that I introduce those Members who have joined us recently. As I welcome them I hope that they will take advantage of all that the Society has to offer and that they will contribute with their knowledge and expertise to the success of the Society's mission:

Valentine Poli, Salvatore & Leigh Sechi, Estela Long,  
Joseph Begg & Maria Acquaviva, Gladys Antezana Miner,  
Douglas W & Maria Victoria Lister, Jaqueline Newell,  
Germana Giordanango, Howard Marshall, Mary Caligiuri

*Benvenuti !*

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**ICS Poche Parole Publication**

**Arrigo Mongini, Editor**

**Anthony Sinopoli, Assistant Editor**

**Romeo Segnan, Paolo Vidoli, Italian Editors**

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**Editor, Poche Parole**

**4827 Rugby Avenue, Suite 301**

**Bethesda, MD 20814**

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is now on the **AMICO** website. Get news from Italy and information on Italian and Italian-American events as well as music & commentary in streaming audio. Log on any time at Pino Cicala's web site

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**ICS Board of Directors and their Responsibilities**

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Luigi De Luca, *At large (Past President)*

Paolo Vidoli, *At large*

Romeo Segnan, *At large*

Cecilia Fiermonte, *At large*

Maria Wilmeth, *Emerita*

Elio Grandi, *Emeritus*

To our readers: In this issue we offer a continuation of the series on early mathematicians of Italy. It started in the October issue with Romeo Segnan's article on Cardano. In the January issue we heard from Luciano Mangiafico about Fibonacci in the 13<sup>th</sup> century, and now we skip ahead about 200 years, first with the second part of Mangiafico's article, concerning several 15<sup>th</sup> century mathematicians, and then again from Romeo Segnan about Tartaglia, who along with Cardano, was famous for contributions to probability theory.

## THE BIRTH OF MODERN MATHEMATICS IN ITALY

### Part Two

by Luciano Mangiafico

Two mathematicians of the early 15<sup>th</sup> century, while not born in Italy, were trained there and spent a good part of their career in the peninsula. **Nicholas of Cusa** (1401-64), although some of his mathematical ideas were incorrect, still made important contributions in the field by developing concepts that later facilitated Leibniz's development of calculus. More importantly, Cusa guessed that the orbit of planets around the sun is not perfectly circular but oval, and asserted that the earth is not the center of the universe and that the universe is not finite but may be expanding. He based his astronomical beliefs, which were correct, on his knowledge of mathematics and philosophy. On a more pedestrian matter, Cusa is



believed to have been the first to make use of concave lenses to correct myopia. Nicholas of Cusa was trained at the University of Padua and in his later years was a cardinal.

The other giant of the century, Johann Müller of Königsberg, Germany, is known as **Regiomontanus** (1436-75). Regiomontanus is Latin for King's Mountain, Königsberg in German for his city of birth. After having studied in Leipzig and Vienna, Regiomontanus moved to Rome in 1461 to work for Greek Cardinal Bessarion and, exposed to the fermenting cauldron of humanist learning in Italy, developed the ambition to translate into Latin and publish all the available scientific information of antiquity. Unfortunately, since he died young, he was able to accomplish only a portion of what he planned.

In 1467 Regiomontanus went to Hungary to the court of King **Matthias Corvinus** (1443-90) and while there devoted himself to the construction of astronomical instruments and the compilation of astronomical tables, intended among other purposes to predict eclipses and to forecast weather conditions. In 1471 he moved to Nuremberg and then back to Rome in 1475 to work on calendar reform for Pope **Sixtus IV** (1471-84). Unfortunately, he died at age forty the following year, probably of the plague, possibly murdered. In addition to mathematics and astronomy, Regiomontanus was also interested in astrology and weather forecasting and during his lifetime published a number of almanacs, with astronomical, astrological, and weather prediction

Ai nostri lettori: In questo numero, pubblichiamo la continuazione della serie sui matematici d'Italia dei tempi antichi. Nel numero di ottobre abbiamo cominciato con l'articolo di Romeo Segnan su Cardano. Nel numero di gennaio abbiamo letto l'articolo di Luciano Mangiafico su Fibonacci che visse nel 13<sup>mo</sup> secolo, e ora saltiamo avanti di circa 200 anni, prima con la seconda parte dell'articolo di Mangiafico su parecchi matematici del 15° secolo, e poi con le note di Romeo Segnan, su Tartaglia, il quale, con Cardano, era famoso per contributi al calcolo della probabilità.

## LA NASCITA DELLA MATEMATICA MODERNA IN ITALIA

### Seconda Parte

di Luciano Mangiafico

Due matematici della prima parte del 15° secolo, sebbene non fossero nati in Italia, vi furono educati e passarono una buona parte della loro carriera nella penisola. **Nicola da Cusa** (1401-64), nonostante alcune delle sue idee matematiche fossero sbagliate, diede tuttavia un importante contributo in questo campo introducendo concetti che piu' tardi facilitarono lo sviluppo del calcolo da parte di Leibniz. Piu' importante, Cusa indovino' che l'orbita dei pianeti attorno al sole non era perfettamente circolare ma ovale, e dichiaro' che il mondo non era il centro dell'universo e che l'universo non era limitato e che probabilmente si stesse espandendo. Baso' le sue convinzioni astronomiche, che erano corrette, sulla sua conoscenza della matematica e della filosofia. Su un argomento di minore importanza, si crede che sia stato il primo ad aver usato le lenti concave per correggere la miopia. Nicola da Cusa fu educato all'Universita' di Padova, e nei suoi anni piu' avanzati fu cardinale.

L'altro gigante dello stesso secolo, Johann Müller da Königsberg, e' conosciuto come **Regiomontanus** (1436-75).



Regiomontanus in latino, significa Montagna del re dal nome in tedesco della la sua citta' natale. Dopo aver studiato a Lipsia e Vienna, Regiomontanus si trasferì nel 1451 a Roma per lavorare per il cardinale greco Bessarion e, a contatto con gli sviluppi degli studi umanistici in Italia, seguì la sua ambizione di tradurre in latino e pubblicare tutta l'informazione scientifica dell'antichità allora disponibile. Sfortunatamente, poiché morì giovane, poté completare solo una parte di quello che aveva pianificato.

Nel 1467 Regiomontanus ando' in Ungheria alla corte del re **Mattias Corvinus** (1443-90) dove si dedico' a costruire strumenti astronomici e a compilare tabelle astronomiche, intese, fra altro, a predire le eclissi e a prevedere le condizioni del tempo. Nel 1471 si sposto' a Norimberga e poi di nuovo a Roma nel 1475 per lavorare sulla riforma del calendario per Papa Sisto IV (1471-84). Sfortunatamente, l'anno seguente morì all'età di 40 anni, probabilmente di peste, o forse assassinato. Oltre alla matematica e

information. **Christopher Columbus** (1451-1506), when he was stranded for a while in Jamaica in early 1504 used one of these almanacs to predict a lunar eclipse (February 29, 1504), amazing the natives with his “magic” and thus convincing them to supply him and his crews with victuals and other provisions.

**Luca Pacioli** (1445-1517) was one of several great Italian mathematicians of the Renaissance. Pacioli was born in the town of San Sepolcro, near Arezzo in Tuscany, and became a Franciscan monk and university professor of mathematics.



He lived for a time in Venice, and then moved to Milan where he collaborated with Leonardo da Vinci and taught him mathematics. In 1497 he published the first comprehensive survey of mathematics, including algebra, in three hundred years. In it he described the double-entry bookkeeping system used by Venetian traders. This included the use of journals, ledgers, balance sheets, income statements, etc. Pacioli is

rightly considered the “Father of Accounting”. His other books included one on numerical puzzles, card tricks, and mathematical problems (1508), one of the applications of natural proportionality in architecture and painting (1509), and one titled *On the Game of Chess*.

**Paolo del Pozzo Toscanelli** (1397-1482) is another giant of science, including mathematics. Born in Florence, he studied mathematics, philosophy, and medicine, obtaining a doctorate in this last field at the University of Padua. While there he became a friend of Nicholas of Cusa, who was a student at the same time. Both Cusa and Regiomontanus frequently quoted Toscanelli as an authority on mathematical questions and Cusa held him in such high regard that he dedicated one of his books to him.

Back in Florence, Toscanelli helped **Filippo Brunelleschi** (1377-1446) with the calculations necessary to build the great dome of Florence cathedral, and in 1475 placed an astronomical *gnomon* in this church. A *gnomon* is a rod whose shadow allows a scientist to determine the position of the sun in the sky, and thus be able to ascertain accurately midday, the seasonal solstices, and the length of the year. The sun strikes the *gnomon* through a small hole in a marble slab that Toscanelli placed 277 feet from the church's floor on the dome above the middle of the left transept. The *gnomon*, still there, served for several hundred years as an experimental astronomical laboratory.

Toscanelli was also a student of geography and familiar with the writings of Ptolemy, Marco Polo, Niccolò de Conti, and others. On the basis of his calculations, he determined that one could reach Japan, China, and the other lands of the Far East by sailing west for about 3,000 miles (the concept was correct but the miles were way off). He even made a map of his “discovery” and in 1474 sent it with a letter to King Alphonse of Portugal who had sought his counsel. While nothing came of this, Columbus, then living in Lisbon,

all'astronomia, Regiomontanus si interessava anche all'astrologia ed alla meteorologia, e durante la sua vita pubblico' parecchi almanacchi con informazioni astronomiche, astrologiche e meteorologiche. **Cristoforo Colombo**, mentre all'inizio del 1504 era temporaneamente bloccato in Giamaica, uso' uno di questi almanacchi per predire un'eclisse lunare (29 febbraio, 1504), meravigliando gli indigeni con la sua “magia” e cosi' convincendoli di fornire cibo ed altre neessita' a lui ed ai suoi equipaggi.

**Luca Pacioli** (1445-1517) fu uno dei molti grandi matamatici italiani del Rinascimento. Pacioli nacque a San Sepolcro, vicino ad Arezzo in Toscana, fu monaco Francescano e professore universitario di matematica. Dimoro' per un periodo a Venezia e poi si trasferi' a Milano, dove collaboro' con Leonardo da Vinci al quale insegnava la matematica. Nel 1497 pubblico', la prima volta in trecento anni, un compendio omnicomprendivo di matematica, compresa l'algebra. Nel compendio descrive il sistema della contabilita' a partita doppia usato dai commercianti veneziani. Questo comprendeva registri, libri mastri, patrimoniali, conti profitti-perdite, ecc. Pacioli e' giustamente considerato “Il padre della contabilita'.” Fra i suoi altri libri, uno tratta di indovinelli numerici, giochi di carte, e problemi matematici (1508), un altro sulle applicazioni della proporzionalita' naturale nell'architettura e nella pittura (1509) e un altro intitolato “*Sul Gioco degli Scacchi*”.

**Paolo del Pozzo Toscanelli** (1397-1482) e' un altro gigante della scienza, matematica inclusa. Nato a Firenze, studio' matematica, filosofia, e medicina, ottenendo un dottorato in quest'ultimo campo all'Universita' di Padova dove divenne amico di Nicola da Cusa, che anche lui era studente negli stessi anni. Sia Cusa che Regiomontanus citavano frequentemente Toscanelli come autorita' in questioni matematiche, e Cusa



lo stimava tanto che gli dedico' uno dei suoi libri

.Ritornato a Firenze, Toscanelli aiuto' **Filippo Brunelleschi** (1377-1446) con i calcoli necessari per costruire la grande cupola della catedrale di Firenze, e nel 1475 colloco' un *gnomone* astronomico in questa chiesa. Lo *gnomone* e' uno stilo la cui ombra permette ad uno scienziato di determinare la posizione del sole nel cielo e poter cosi' determinare accuratamente il mezzogiorno, i solstizi stagionali, e la durata dell'anno. Il sole batte sullo gnomone tramite un piccolo foro nella lastra di marmo che Toscanelli posiziono' sulla cupola, 277 piedi (70m) dal pavimento della chiesa, sopra al centro del transetto sinistro. Lo gnomone, che si trova tuttora li, servi' per alcuni secoli come laboratorio astronomico sperimentale.

Toscanelli era anche uno studente di geografia, conosceva gli scritti di Tolomeo, Marco Polo, Niccolò de Conti, ed altri. Sulla base dei suoi calcoli determino' che si poteva arrivare in Giappone, Cina e altre terre dell'Estremo Oriente navigando verso l' ovest per circa 3,000 miglia (il concetto era corretto ma la distanza era sbagliata di molto). Fece persino una mappa della sua “scoperta” e, nel 1474 la invio'

obtained a copy and with it started to plan the epic voyage that resulted in the discovery of the Americas. Apparently, he subsequently wrote to Toscanelli directly and was further encouraged in his intent by the mathematician's reply.

The 16<sup>th</sup> century was the golden age of mathematics in Italy, with such stars as Niccolò Fontana "Tartaglia", Scipione del Ferro, Antonio Maria Fior, Girolamo Cardano, and Luigi Lodovico Ferrari.

**Luciano Mangiafico is a retired US diplomat. Among his many postings he was Consul General in Palermo and Consul in Milan.**

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### **"TARTAGLIA"**

di Romeo Segnan

Niccolò Fontana, soprannominato Tartaglia, matematico, ingegnere, geometra e contabile, nacque a Brescia nel 1500 e morì a Venezia nel 1557. Nel 1505, quando Niccolò aveva solo 5 anni, suo padre Michele fu ucciso e la famiglia, la madre, la sorella e i due fratelli, si trovò impoverita. Nel 1512 Niccolò fu colpito da un'altra tragedia. Durante la guerra della Lega di Cambrai, in cui la maggior parte delle potenze europee s'erano schierate contro Venezia, i francesi occuparono Brescia, che in quegli anni faceva parte della Repubblica di Venezia. I francesi si scatenarono contro la città e massacrarono più di 45,000 cittadini. Durante il massacro un soldato francese ferì Niccolò tagliandogli parte della mascella ed il palato. La ferita rese impossibile a Niccolò di parlare normalmente ed è così che acquistò il soprannome Tartaglia.



Tartaglia fu l'autore di molti libri, tra cui le prime traduzioni italiane di Archimede ed Euclide e un famoso trattato di matematica. Egli fu il primo ad applicare la matematica allo studio delle traiettorie delle palle di cannone; più tardi il suo lavoro fu convalidato dagli studi di Galileo sulla caduta dei corpi. Pubblicò anche un

trattato sul recupero di navi affondate.

Tartaglia fu inizialmente un autodidatta, ma il suo straordinario talento gli consentì di procurarsi un maestro e mecenate, Ludovico Balbisonio, che lo fece

con una lettera a re Alfonso di Portogallo, che gli aveva chiesto un consiglio. Sebbene non ne venne fuori nulla, Colombo, allora residente a Lisbona, ne ottenne una copia e con ciò cominciò a programmare il viaggio epico che lo portò alla scoperta delle Americhe. Sembra che più tardi avesse scritto direttamente a Toscanelli e fosse ulteriormente incoraggiato nei suoi piani dalla risposta del matematico.

Il 16° secolo fu in Italia l'età d'oro della matematica con celebrità come Niccolò Fontana, "Tartaglia", Scipione del Ferro, Antonio Maria Fior, Girolamo Cardano, e Luigi Lodovico Ferrari.

**Luciano Mangiafico e' un ex diplomatico degli S. U. Fra i suoi molti incarichi ricoprì quelli di Console a Milano e di Console Generale a Palermo.**

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### **"TARTAGLIA"**

by Romeo Segnan

Niccolò Fontana, nicknamed "Tartaglia" (stutterer), Mathematician, engineer, surveyor, and accountant, was born in Brescia in 1500 and died in Venice in 1557. In 1505, when Niccolò was 5 years old, his father Michele was killed, and the family, the mother, sister and two brothers, found itself impoverished. In 1512 Niccolò was struck by another tragedy. During the War of the League of Cambrai, in which most of the European powers had taken sides against Venice, the French occupied Brescia, that in those years was part of the Venetian Republic. The French let loose against the city and massacred over 45,000 citizens. During the massacre a French soldier wounded Niccolò, cutting part of his cheek and his palate. The wound made it impossible for Niccolò to speak normally, and that is how he acquired the nickname "stutterer"

Tartaglia was the author of many books, among which the first Italian translations of Archimedes and Euclid and a famous treatise on mathematics. He was the first to apply math to the study of trajectories of cannonballs; later, his work was validated by the studies of Galileo regarding falling bodies. He also published a treatise on the salvage of sunken ships.

Tartaglia was initially self taught, but his extraordinary talent allowed him to get himself a tutor and patron, Ludovico Balbisonio, who had him study at Padova. But when he returned to Padova with his patron, his very bad character, along with an exaggerated opinion of himself made him unpopular, making it difficult for him to find a job. He left Brescia to make a living teaching mathematics at Verona between 1516 and 1518. In 1534 he moved to Venice where he found work as a humble math teacher. Despite this, Tartaglia gradually acquired a reputation as a promising mathematician; successfully participating in a large number of debated, and was the first mathematician to translate in 1543 the famous elements of Euclid into a modern European language, Italian. For several centuries, the teaching

studiare a Padova. Ma quando tornò a Brescia col suo mecenate il suo pessimo carattere, unito a una smodata opinione di sé, lo resero impopolare, impedendogli di trovare un lavoro.. Lasciò Brescia per guadagnarsi da vivere insegnando matematica a Verona tra il 1518 e il 1516. Nel 1534 si trasferì a Venezia dove trovò impiego come umile insegnante di matematica. Ciononostante, Tartaglia acquistò gradualmente una reputazione come promettente matematico partecipando con successo un gran numero di dibattiti e fu il primo matematico a tradurre nel 1543 i famosi elementi di Euclide in una lingua europea moderna, l'italiano. Per diversi secoli l'insegnamento degli elementi era basato su due traduzioni latine, a loro volta tradotte da testi arabi che contenevano degli errori. La traduzione di Tartaglia si basò su un testo greco che non aveva errori.

Niccolo Tartaglia è famoso per la sua scoperta della soluzione delle equazioni cubiche. Veramente, la prima persona nota per aver risolto equazioni cubiche algebricamente fu il matematico del Ferro. Tartaglia ebbe il merito di aver scoperto una soluzione più generale. Tartaglia si tenne per sé questa scoperta, ma infine la comunicò a Girolamo Cardano, l'altro matematico famoso del Rinascimento. Cardano promise a Tartaglia che non l'avrebbe mai divulgata. Cardano, tuttavia, la pubblicò nel suo trattato d'algebra (*Unus sive del liber del de regulis Algebrae di magnae di Artis*) pubblicato a Norimberga nel 1545. Cardano si sentì libero dalla sua promessa avendo saputo che il del Ferro aveva proposto una soluzione, anche se meno generale, prima di Tartaglia. Sebbene Cardano attribuì la scoperta a Tartaglia, questi rimase estremamente turbato, tanto da insultarlo pubblicamente.

La fama di Tartaglia non resta soltanto sulle soluzioni delle equazioni cubiche. Nel 1537 pubblicò un trattato, la *Nova Scientia*, che riguardava le applicazioni della matematica ai problemi dell'artiglieria; scrisse anche un testo di aritmetica, stampò edizioni latine delle opere di Archimede (riprese da edizioni tedesche), e nel 1546 pubblicò *Quesiti et Inventioni Diverse*, in cui esponeva anche la legge del piano inclinato, precedendo Galileo di ben un secolo. Tartaglia è anche noto per aver dato un'espressione (formula di Tartaglia) per il volume di un tetraedro (incluso qualsiasi tetraedro irregolare).

Ormai povero e disilluso, Tartaglia tornò a Venezia, dove riprese il lavoro di insegnante e rimase fino alla fine della sua vita. Morì il 13 dicembre 1557

of the elements was based on two Latin translations, in turn translated from Arab texts that contained some errors. Tartaglia's translation was based on a Greek text that did not have errors.

Niccolo' Tartaglia is famous for his discovery of the solution of cubic equations. In truth the first person noted for having solved cubic equations algebraically was the mathematician del Ferro. Tartaglia had the credit for discovering a more general solution. Tartaglia kept this discovery to himself, but in the end he communicated it to Girolamo Cardano, the other famous Renaissance mathematician. Cardano promised Tartaglia that he would never divulge it. Cardano, however, published it in his treatise on algebra (*Unus sive del liber del de regulis Algebrae di magnae di Artis*) published in Nuremberg in 1545. Cardano felt free of his promise, having learned that del Ferro had put forward a solution, even though less general, before Tartaglia. Even though Cardano attributed the discovery to Tartaglia, the latter remained extremely disturbed, so much as to insult him publicly.

Tartaglia's fame did not rest only on solutions to cubic equations. In 1537 he published a treatise, *Nova Scientia*, that regarded the application of mathematics to artillery problems, he also wrote a text on arithmetic, he printed Latin editions of the works of Archimedes (taken from German editions), and in 1546 he published *Quesiti et Inventioni Diverse*, in which he also expounded the law of the inclined plane, preceding Galileo by a good century. Tartaglia is also noted for having given an expression for the volume of a tetrahedron, (including all irregular tetrahedrons).

Finally, poor and disillusioned, Tartaglia returned to Venice, where he resumed work as a teacher and remained there until the end of his life. He died on December 13, 1557.



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**National Gallery of Art:** guided tours of the Italian renaissance collection, West Building, main floor rotunda Mon.- Sat. 2:30, Sun. 1:30

Italian Language guided tours: West Building, Feb 14 & 18, 12:00 PM and East Building, Feb. 14 & 18, 2 PM. **Call 202-842-6247 for RSVP**

“Antico: the Gilded Age of Renaissance Bronzes”, East Building, ground floor, thru April 8.

“The Baroque Genius of Giovanni Benedetto Castiglione”, paintings Prints and drawings, Ground Floor, West Building, thru July 8.

“Side by Side, Cimabue and Giotto at Pisa”, a lecture by Prof. Julian Gardner, East Building, concourse auditorium, Sunday, Feb 5 at 2:00 PM

“Music by Renaissance Composers, Asteria, for Lute and Voice” West Building, main floor, Garden Court Sunday, Feb. 5, 6:30 PM

More details on these events and exhibits can be found on the National Gallery website [www.nqa.gov](http://www.nqa.gov).

**Imagination Stage:** P. Nokio, a hip-hop musical, a modern retelling of Pinocchio. Thru March 11 4908 Auburn Ave, Bethesda, MD 301-280-1660

**Holy Rosary Church: Carnevale** Celebration in Casa Italiana 7:00 PM Saturday, Feb. 18 reservations must be made and paid in advance.

## ICS CARNEVALE

*Dust off your masks and costumes and join your friends for an afternoon of CARNEVALE CONTRA DANCING including the Quadriglia and other favorites from the Apennines to the Appalachians*

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*\* Masks will be on sale at the door.*

### --- William D. Phillips ---

The Nobel Prize in Physics 1997 was awarded jointly to Steven Chu, Claude Cohen-Tannoudji and William D. Phillips *"for development of methods to cool and trap atoms with laser light"*. Chu is our present Secretary of Energy. Phillips continues to be a towering presence at the National Institute of Standards and Technology (NIST) in Gaithersburg, and Cohen-Tannoudji continues a very active career in teaching and research at the École Normale Supérieure in Paris.

As Phillips notes proudly in his autobiography on the Nobel website, his mother was born in the tiny village of Ripacandida in Basilicata ([http://www.nobelprize.org/nobel\\_prizes/physics/laureates/1997/phillips-autobio.html#](http://www.nobelprize.org/nobel_prizes/physics/laureates/1997/phillips-autobio.html#)), and because other children made fun of her Italian heritage as she was growing up, she was driven to excel. His father traces his heritage to ancestors from Wales who fought in the American Revolution. Both parents, so different in background, were open, determined people who became social workers in the hard coal country of Pennsylvania and passed on their caring attitude to their children. The children were raised in a stimulating household in which lively, competitive discussions around the dinner table over a broad range of subjects encouraged both respect for the opinions of others and a sense of freedom and curiosity to probe the world around them. Phillips goes on to generously describe how he was fortunate to have a family, good teachers, and so many others to recognize his abilities and accelerate him on his way.

Phillips is one of those rare persons who combine superb experimental skill with strong, intuitive talent in theoretical physics. Important in his development in both of these areas was his experience as a graduate student at MIT working with Daniel Kleppner and his group which met regularly and used lively discussions to help shape their thoughts about their work (much like his childhood experience around the family dinner table). He credits Kleppner by saying, "I also try to follow the principle Dan taught by example: that one can do physics at the frontiers, competing with the best in the world, and do it with openness, humanity and cooperation."

Joining the National Bureau of Standards (later called NIST) in 1978, he began by using methods he had learned at MIT and as a post-doc to work on making precise measurements (on the proton gyromagnetic ratio and on the absolute Ampere, the measure of electric current.) But he also used the skills that he had developed in lasers and atomic physics to pursue laser cooling that led to his Nobel Prize. He describes it all in detail in his Nobel lecture:

([http://www.nobelprize.org/nobel\\_prizes/physics/laureates/1997/phillips-lecture.pdf](http://www.nobelprize.org/nobel_prizes/physics/laureates/1997/phillips-lecture.pdf)). The extremely precise atomic clocks are related to this work, and these time-pieces make the whole world of electronic communications that drives the modern economy, from the use of credit cards and ATMS to the internet, possible. In the end, the "esoteric" work at NIST related intimately to our daily lives.

When Bill Phillips comes to present to the ICS in March, he intends to bring equipment to do interesting and entertaining demonstrations for which he has become in high demand as an exciting speaker about physics in the Washington area, and indeed around the world. It is really a high privilege for the ICS to have him address us. Please be sure to attend this meeting and bring as many friends as you can. Come early, a large audience is expected.

by **Ron Cappelletti**

# PICTURES FROM THE JANUARY SOCIAL



# ICS membership application

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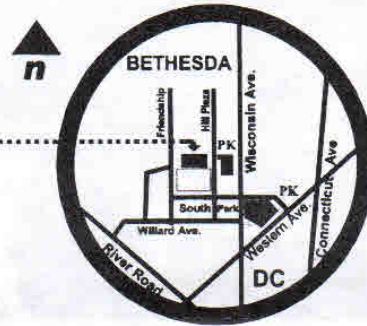
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