1
Como, a Small Town

Alessandro Volta was born on 18th February 1745 in Como, a small town enclosed by medieval walls. The town's approximately 12,000 inhabitants sustained themselves by producing wool, silk, and velvet. The surrounding countryside and the villages near the lake further contributed to the local economy. Como was subject to Vienna's jurisdiction through Milan. As Maria Azzi Grimaldi notes in *La vita e i tempi di Alessandro Volta* [1961], « the calm smile of Maria Theresa watches over the city, whose people owe much of their prosperity and well-being to her balanced energy».

View of Como.
Engraving by Friedrich Bernard Werner,
published by Johann Christian Leopold in Augsburg, 1732.

Portrait of Maria Theresa of Habsburg.
Anonymous painting, 18th century.
[Soprintendenza ai Beni Artistici e Storici, Milan]

Design for the dome of Como Cathedral by Filippo Juvarra.
[Como, Pinacoteca, in storage at the Archives of the Fabbrica del Duomo]

2
The Volta Family

The Volta family, established in Como since the 15th century, originally came from Loveno, near Menaggio. In 1536, Zanino Volta purchased a house in the district of Porta Nuova, where the houses of Como's aristocracy were concentrated, and in 1546, he acquired a country estate in Campora, a hamlet of Camnago. It was here that Alessandro Volta would spend the last years of his life and where he would ultimately be buried.
In 1691, the Volta family was granted a title of nobility by the city of Como for civic contributions. However, by the mid-18th century, the family did not flaunt its wealth. Alessandro grew up in an atmosphere of modesty and frugality.
The family's city house was a single-storey building located where today there is the No. 62 of the street named after Volta since 1888. The building was later renovated into a more imposing structure by its next owner.

View of Como.
Watercolour by Achilles Benz, 1805-6.
[Öffentiliche Kunstsammlung Basel, Kupferstichkabinett]

Location of the Volta house in the district of Porta Nuova.
19th-century redrawing of the map from the Catasto Teresiano of 1722.

Noble coat of arms of the Volta family.

Alessandro Volta's ancestral home after the 1866 restoration,
commissioned by the next owner, Carlo Pizzala.

Alessandro Volta's family tree.

3
Birth of Alessandro

Filippo Volta and Maddalena dei Conti Inzaghi had seven children. Alessandro's three older brothers pursued careers in the church, while only one of his three younger sisters survived into adulthood.
Considered to have a frail constitution, Alessandro was put out to nurse in the mountains of Brunate, where he spent the first two and a half years of his life, cared for by Elisabetta Pedraglio and Lodovico Monti, a barometer maker, to whom he remained closely bound by respect and affection.
Biographers note that Alessandro did not begin speaking until the age of four, but by seven, he already demonstrated great curiosity and a strong inclination for studies.
Following the early death of his father in 1752, Alessandro and his younger sisters lived with their mother and their uncle, Canon Alessandro, while his three older brothers were entrusted to another uncle, Archdeacon Antonio.

Church of San Donnino.
Detail from an aquatint by Louis Philibert Debucourt, 1812.

Record of Alessandro Volta's baptism.
[Parish registers of the Church of San Donnino]

Alessandro's nursemaid's house in Brunate.
[Illustrated postcard from the early 20th century]

4
Alessandro's Education

Alessandro's childhood was shaped by rigorous studies, religious education, and interactions with the aristocracy, as was customary for every patrician family in the 18th century. He learned to read and write at home, and at the age of thirteen, began a three-year course in humanistic studies with the Jesuits, teaching himself French along the way. At sixteen, his canon uncle transferred him to the Benzi Royal Seminary, fearing that Jesuit Father Bonesi was trying to persuade him to join the Jesuit order.

Alessandro became proficient in fluent and elegant Latin, learned German, and gained the ability to write in English.

During his school years, he immersed himself in the classics and poets of Italian literature. Some of his poetic works in Italian, Latin, and French have been preserved, but what truly distinguished him from an early age was his passion for observing natural phenomena.

At the age of 19, Alessandro proposed the idea that certain electrical phenomena might be linked to Newton's laws of attraction, a hypothesis that earned him praise and recognition from the renowned French physicist Jean-Antoine Nollet. This marked his first international success.

Jesuit College [1]
and Benzi Seminary [2].
Based on the Catasto Teresiano, 1722.

One of Alessandro Volta's first scientific publications, in 1788.

Volta as a child with Jesuit Father Gerolamo Bonesi.
Painting attributed to Martin Knoller, approximately 1755.
[Location unknown]

Panorama of Como.
Detail from a drawing by Alfred Guesdon, 1853.
With the indication Jesuit College [1] and the Benzi Seminary [2].

5
Country Estates

As a boy, Alessandro frequently spent time in the countryside, staying at the family's summer house in Campora, with his aunt and uncle Stampa in Gravedona (where he later went on his honeymoon), or in Lazzate, at the house his aunt and uncle left to him in inheritance. It was common for young aristocrats to spend holidays at the country estates of family friends. The families Riva, Reina, Giovio, Mugiasca, Natta, and Cigalini were among the patrician names in Como at the time, all connected to the Volta family.

Each of these families owned one or more country or lakeside estates.

During the summer holiday in 1776 on Lake Maggiore, Alessandro made a notable discovery. While stirring the muddy bottom of the lake with a stick near the reeds, he noticed gaseous bubbles rising to the surface and disappearing into the air. After collecting the gas, he found it to be flammable («this air burns very slowly with a beautiful blue flame») and named it «inflammable air native to the marsh»—what we now know as methane.

That same year, he constructed a gas lamp fuelled by this inflammable gas and conceived the idea of transmitting an electrical signal from Como to Milan using a long wire insulated from the ground by wooden poles. This concept would later come to life with the invention of the telegraph.

The Volta house in Campora, near Como.
Photograph from the early 20th century.

View of Gravedona with the Stampa family house.
Drawn by Corrodi, engraved by Weber,
published by Füssli in Zurich, 1829.

The Volta family home in Lazzate, between Como and Milan.
Photograph from the early 20th century.

6
Gattoni and early studies

From his school days, Alessandro made friends with Cesare Gattoni, his neighbour, with whom he shared a passion for physics experiments.
This is how Gattoni remembered Alessandro: «He seemed dissipated and did not commit much, but he did in an hour what took me three days. [...] In his eighteenth year he was already in correspondence with Father Beccaria, with Nollet, with Franklin in America, with Father Barletti, with Priestley, and other famous physicists».
In 1769, at the age of twenty-four, Volta published *De vi actractiva ignis electricis, ac phaenomenis inde pendentibus*, dedicated to the physicist Beccaria. In 1771 he published a work dedicated to Spallanzani, Professor of Natural Sciences at the University of Pavia, with whom he had recently been in correspondence. The world of physicists began to look with interest at the small Larian town where a young man was able to develop such peculiar and fascinating hypotheses.

Frontispiece of *De vi attractiva* printed in Como in 1769.

The southern front of Como's city walls in a 19th-century drawing: Torre Gattoni on the left, Porta Torre in the centre, Torre di S. Vitale on the right.

Relief of the instruments installed by Gattoni on the tower near his house.
[from a notarial deed of 1780 - Como, State Archives].

7
Volta at the Como Upper Secondary School

In 1774, at the age of twenty-nine, Volta was appointed «Superintendent and Regent of the Royal Schools of Como» by Count Firmian, the Austrian plenipotentiary governor for Lombardy. Volta proposed an educational reform based on the *Ratio Studiorum* of the Jesuit Colleges, which had been suppressed the previous year.
In 1775, he introduced the «perpetual electrophorus» to the scientific world. Thanks to the international recognition gained, he was appointed, without competition, to the newly established chair of experimental physics at the Royal Gymnasium.
Volta also worked to establish a physics laboratory in Como. In November 1775, he wrote to Count Firmian: «We are eagerly waiting to see a physics laboratory established here in Como as well.» The following August, he added: «What matters most to me is the proper equipment for the machines, of which my school has some, but is still lacking in many essential tools.» He initiated the creation of the physics laboratory and requested skilled technicians, as he explained to Firmian: «In Como, there is no one who can turn a screw in brass, ivory, or wood; no one to work on lenses; no one to make cases; no cabinetmaker.»
Volta also focused on establishing a public library in Como: «Another project that I long for is the Library: to combine the books left by the Jesuits with those of the Collegio dei Dottori (College of Fellows), thus forming a single public library, [...] no less than those provided by the Government.»
During this period, Volta also taught catechism to the children of the parish of San Donnino, as a plaque in the church still commemorates.

View of Como.
Drawing by William Callow, 1840.
[Birmingham, City Art Gallery]

The “Sala Benzi” at the Liceo Classico (Upper Secondary School Focusing on Humanities) “A. Volta”,
former reading room of the Municipal Library.
[Photograph of approximately 1905]

Commemorative medal of Karl Joseph, Count of Firmian (1712-1782).

8
First Trips to Europe

In September 1777, Alessandro Volta embarked on his first trip abroad, traveling to Alsace and Switzerland with his distinguished fellow citizen, Count Giovan Battista Giovio, a scholar.
As Maria Azzi Grimaldi wrote in *La vita e i tempi di Alessandro Volta* (1961), «The Swiss cities appear before the traveller like a collection of clear prints: Lucerne, Zurich, Basel, Bern, Geneva, Strasbourg.
Alessandro observes and takes notes. Everything is fascinating and new, from the phenomena detected with his instruments to the characters of the inhabitants and the wonders of the science laboratory.»
In Zurich, the Academy of Physical Sciences held a special session in Volta's honour. In Geneva, he met Jean Senebier, a naturalist and scholar, as well as Horace-Bénédict de Saussure, a geologist and physicist. In Ferney, he had the opportunity to meet the elderly Voltaire.
Count Giovio remarked: «My Volta is always busy [...]. When there are no museums or learned men around, he immerses himself in experiments, touches, examines, meditates, and takes notes. Whether in the carriage or at the table, no matter where we are, I must always have his little handkerchief ready, where, with the greatest ease, he cleans his hands, nose, and instruments.»
During this trip, Volta also learned about the use of the potato as a food source, which he would later work to promote in Lombardy and across Italy.

Splügen Road, Upper Gallery.
Watercolour by Mathias Gabriel Lory, around 1800.

Giovan Battista Giovio.
Painting by Giovan Battista Rodriguez, around 1780.
[Museo Giovio, Como]

Mail Coach.
Drawing by Mathias Gabriel Lory, late 18th century.

Carlo Amoretti,
The cultivation of potatoes.
Galeazzi, Milan 1801.

9
Volta at the University of Pavia

In 1778, Volta was appointed professor of experimental physics at the University of Pavia, where he later became rector during the academic year 1785-86 and served as director of the faculty of philosophy from 1814 to 1820.
During Volta's tenure, the University of Pavia was a hub of intellectual activity. The new library was opened, a botanical garden was established, and the scientist Lazzaro Spallanzani made great advances in the natural sciences. Pietro Moscati, physician, also founded the Pathological Museum. Volta's lectures were so popular that a new large hemicycle hall had to be built, which he affectionately called «my pleasant and comfortable little theatre of physics» (now known as Volta's classroom).
During this period, Volta introduced a new theory on «electrical conductors» and developed the «condenser», a device capable of capturing even the slightest amount of electricity. He formulated original concepts that would lay the groundwork for future electrology and introduced terms like «capacitance» and «voltage».
Between 1786 and 1792, he focused primarily on electrical meteorology and studied the physical-chemical properties of gases. He determined the law of uniform expansion of air—ten years before Gay-Lussac.

Emblem of the University of Pavia

The façade of the University of Pavia.
Early 19th-century engraving.

View of Pavia.
Engraving by Friedrich Bernard Werner,
Engraving by Johann Christian Leopold in Augsburg, 1732.

The Volta's classroom in the University of Pavia.

10
New Trips

In 1781, Volta embarked on an extended study trip, funded by the Austrian government, with the goal of acquiring scientific equipment for the University. He visited Cologne, Mainz, Aachen, and Frankfurt, then continued through Holland, Flanders, and England, returning via France.
In 1782, he was in Paris: «I do not spend much time on visits or amusements, instead focusing on attending courses in Physics and Chemistry, and engaging in conversations with scholars. I have met Franklin several times, as well as Lavoisier and other Academicians. I have demonstrated my experiments and explained my theories, which have been well received, and I have already been asked to present them to the entire Academy. However, all my scholarly pursuits do not prevent me from enjoying the beautiful walks in Paris and the fine lunches at various noble houses, especially those frequented by lovers of the natural sciences. [...] We will remain in Paris until mid-April. Afterward, I will head to London [...]».
From London, Volta travelled to Oxford and Birmingham, where he met the scientist Joseph Priestley, with whom he had been corresponding for some time. Sadly, on his return to Como, he did not have time to see his mother, who had passed away just days earlier.
In 1784, accompanied by his fellow, the anatomy professor Antonio Scarpa, Volta journeyed through the Tyrol to Vienna, where he was received by Emperor Joseph II.

Benjamin Franklin
(1706-1790).

Emperor Joseph II of Habsburg
(1741-1790).

Map of Europe.
Coloured engraving from the early 18th century.

View of London.
Engraving of about 1730.

11
Between Austria and France

From 1782 to 1789, due to the reforms of Emperor Joseph II, 40 monasteries in Como were closed, hospitals were placed under public administration, and the diocese was separated from the metropolitan see of Aquileia.
In 1796, Napoleon Bonaparte launched his Italian campaign, winning the Battle of Lodi and entering Milan on 15th May, establishing the "Transpadane Republic" in Lombardy. French troops entered Como on 14th May.
In 1797, Napoleon visited Como and stayed at Villa La Rotonda in Borgo Vico. “Trees of Liberty,” symbols of the revolution, were erected in Piazza del Duomo, and the city was governed by moderates such as Giovan Battista Giovio, Benigno Natta, and Pietro Olginati. The Jacobins met at the Osteria della Cerva, while the anti-French aristocrats and Cathedral canons gathered at the Bottegone.
On 9th July, the Cisalpine Republic was proclaimed, and on 17th October, the Treaty of Campoformio ended the war between France and Austria. However, war resumed in March 1799, with Austria allied to Russia. Russian troops defeated the French at Cassano d'Adda on 27th April, forcing them out of Lombardy. Napoleon later returned to Italy with 60,000 men, defeating the Austrians at Marengo and restoring the Cisalpine Republic.
Como became the capital of the Department of Lario, and on 2nd December 1804, Napoleon declared himself emperor, transforming the Italian Republic into the Kingdom of Italy, where he was crowned king in Milan on 26th May 1805.
Following Napoleon's defeats across Europe, the Austrians reoccupied Milan in April 1814, re-annexing Lombardy-Venetia and putting an end to the Kingdom of Italy.
During the French domination, as in the earlier years of moderate Austrian reformism, Volta, who appreciated the benefits of new “civil industriousness,” did not shy away from public service and involvement in civic and political life.

Taking of the Bridge at Lecco, 6th June 1800.
Engraving by Skelton, after a painting by Giuseppe Pietro Bagetti.

Entry of the French into Milan, 14th May 1796.
Engraving by Duplessis-Bertaux, after a drawing by C. Vernet.

Triumphal Arch erected in Milan for Napoleon's entry, 16th December 1807.
Early 19th-century engraving.

Entry into Milan of Austrian Emperor Franz I, 31st December 1815.
Early 19th-century engraving.

12
Public Offices in Como

In the 18th century, Como's institutions were governed by its patrician families. Alessandro Volta, in addition to being a renowned scientist, was also active in political life. During the reign of Maria Theresa, he served as one of the 40 decurions of the General Council of the Municipality of Como. In the years that followed, he held various public offices.

1778-79	Judge of Roads and Councillor.
1796	Together with Giambattista Giovio, as a decurion, he travelled to Milan to represent the city and pay homage to General Bonaparte.
1799	During the return of Austrian forces, he withdrew to Como, dedicating himself to his studies.
1801	On behalf of the University of Pavia, he paid homage to Napoleon in Paris.
1802	He was among the 30 delegates of the Cisalpine Republic at the Conulte de Lyon, which established the Italian Republic. He also served as president of the General Council of the Department of Lario and as the first municipal administrator of Camnago.
1803	Print Reviewer in Como.
1804	Magistrate for Water and Roads (until November 1806, when the access road to the city, known as the "Napoleona," was built); member of the Electoral Council of Scholar and the Commission for Meritorious Inventions.
1806-07	Delegate of the Office of Freedom of the Press for the Department of Lario and Councillor in the Municipal Council of Como.
1809	Appointed « Senator of the Kingdom of Italy»; by Napoleon, for which reason he lived in Milan from 1809 to 1814, where his children studied. In the same year, Napoleon appointed him Count.

Villa Olmo after the arrival of Emperor Ferdinand I.
Painting by Giuseppe Bisi, around 1838
[Vienna, Belvedere Gallery]

Camerlata, arrival point of the Road "Napoleona", 1840.
Lithograph, designed by Giuseppe Elena,
published by Carbetta in Milan.

The Building that Housed the Municipal Government in the 19th Century, in via 5 Giornate.
Photograph from the early 20th century.

13
Transformations of the City

In the second half of the 18th century, Como underwent significant transformations in its structure and appearance. The first "centralised" manufactories began to emerge, such as the Guaita wool mill in the suburb of S. Martino. Meanwhile, the suburbs of Vico and S. Agostino were adorned with numerous patrician villas. Many religious buildings were also renovated, including the church of S. Bartolomeo and S. Maria di Loreto, which is annexed to the Collegio Gallio.

1782	Construction of Villa Olmo began, commissioned by Innocenzo Odescalchi and designed by architect Simone Cantoni.
1783	The ditch surrounding the city walls was filled in, thanks to the private initiative of Marquis Giuseppe Rovelli.
1784-88	A plan was implemented to reorganise parish divisions and rationalise the road network. According to Cesare Cantù, during this time, the 743 dwellings in the town and 555 in the surrounding villages were numbered.

View of the port of Como and its surroundings.
Coloured etching by Joseph Rebell, engraved by Heinrich Adam, published in Vienna by Artaria & Comp., around 1810.

Porta Torre and the drained ditch.
Aquatint by Louis Philibert Debucourt, 1812.

Porta Torre after the ditch was filled in.
Engraving by Rouargue Frères, around 1850.

14

The Renovation and Modernisation Works Continue in the Early 19th Century.

1804 The construction of the Upper Secondary School near Porta Torre, designed by architect Simone Cantoni.
Hydraulic drainage works were undertaken in the marshy areas of Porta Torre square and Pra' Pasquée, as well as along the city walls and the Cosia River.

1806 The construction of the major access road known as the "Napoleona" was completed.

1811 Construction of the Suburban Cemetery began, following an ordinance issued by Joseph II in 1783 that prohibited burials in churches. The chosen site was located between S. Abbondio and S. Rocco.

1813 The Teatro Sociale was inaugurated on the site of the demolished Castello della Torre Rotonda. The design for the new performance venue was by architect Giuseppe Cusi.

1824 The façade of the Basilica dell'Annunciata was renovated based on a design by Luigi Canonica. This façade was later replaced in the second half of the 19th century by a new design from Luigi Fontana.

The Upper Secondary School near Porta Torre.
Coloured etching, drawn and engraved by C. Lose,
published by Vallardi in Milan, around 1820.

The Apses of the Cathedral with the Teatro Sociale and the City Walls.
Aquatint, engraved by Luigi Cherbuin from an original daguerreotype,
published by Artaria in Milan, 1845.

The new Teatro Sociale.
Etching, designed by Joseph Rebell and engraved by Heinrich Adam,
published by Artaria & Comp. in Vienna, around 1820.

The Façade of the Annunciata, 1824.
Drawing by Luigi Canonica.
[Archive of Ss. Annunciata, Como].

Relief of the Castle.
Lithograph published in Milan, around 1811.

15
International Awards

In 1794, the Royal Society of London awarded Alessandro Volta the prestigious Copley Medal, equivalent in importance to today's Nobel Prize, for his interpretation of galvanic phenomena formulated in 1792.
On 20th March 1800, Volta announced the invention of the battery in a letter to Sir Joseph Banks, President of the Royal Society.
At three sessions held on 7th, 12th, and 22nd November 1801, Volta presented his invention at the Institut National des Sciences et Arts in Paris, in the presence of Napoleon.
On 12th December, he became the first Italian to receive the Institut National's «Foreign Member» medal.
In June of the following year, he was awarded the Institut National's gold medal in recognition of his contributions to the study of galvanism, along with a prize of 60,000 francs.

View of the Tuileries Palace in Paris
Drawing by Israël Silvestre 1621-1691
[Cabinet des dessins du Louvre, Paris]

Somerset House, London
Home of the Royal Society from 1780 to 1857

Paris, 17th September 1801.
Dear Brother,
(...) You may now tell Dear PORTA that the small adjustments I made to the ampoule, and the other little gadgets, have attracted attention not only from some physicists, or rather enthusiasts of such trifles, but also from the ministers and the First Consul, causing all of Paris and the Official Gazette to take notice. Look, he will say, at where so many brilliant minds are occupied. I, leaving the jokes aside, marvel at how my old and new discoveries about so-called Galvanism—now proven to be nothing more than pure electricity generated by the contact of different metals—have caused such enthusiasm.
From a letter by Alessandro Volta to his brother, Archdeacon Luigi

Throughout his life, Volta received numerous academic awards, often bringing greater prestige to the institutions that awarded them than to the now world-famous scientist.

Academia Scientiarum Boica in Munich, Accademia degli Affidati in Pavia, Accademia delle Scienze in Bologna, Accademia delle Scienze in Siena, Accademia in Pisa, Accademia di Scienze Lettere Agricoltura e Arti in Brescia, Accademia di Scienze Lettere ed Arti in Padua, Accademia Gioenia di Scienze Naturali in Catania, Accademia

Labronica in Livorno, Accademia Napoleone in Lucca, Ateneo di Treviso, École de Médecine in Paris, Königlich-Preußische Akademie der Wissenschaften in Berlin, Koninklijk Instituut van Wetenschappen, Letterkunde en Schoone Kunsten in Amsterdam, Koninklijke Hollandsche Maatschappij der Wetenschappen in Haarlem, Musée de Paris, Physikalisch-Medizinische Sozietät in Erlangen, Reale Accademia delle Scienze in Turin, Reale Accademia di Scienze e Belle Lettere in Mantua,
Royal Society of Edinburgh, Schweizerische Physikalische Gesellschaft in Zurich, Società Agraria in Turin, Pharmaceutical Society in St Petersburg, Société de Physique et d'Histoire Naturelle in Geneva, Société Galvanique in Paris.

16
Honours

In 1805, Napoleon awarded Alessandro Volta the Legion of Honour, a knightly order established in 1802, and the highest honour conferred by the French Republic. In 1806, Volta received the title «Knight of the Order of the Iron Crown,» an order instituted the previous year by Napoleon as King of Italy, which was later adopted by the Austrians in 1815 as the «Imperial Austrian Order of the Iron Crown».
In 1809, Volta was appointed senator of the Kingdom of Italy, and the following year, he was granted the title «Count of the Kingdom of Italy.»
After the Austrian Restoration, Volta retained the title of Count of the former Kingdom of Italy and was permitted to continue wearing the Legion of Honour.

1. Copley Medal of the Royal Society of London, 1794
2. Medal of « Foreign Medal» of the Institut National, 1801
3. Gold Medal of the Institut National des Sciences et Arts, Paris, 1802
4. Cross of the Legion of Honour, 1805
5. Insignia of Knight of the Imperial Order of the Iron Crown,1815

Paris, 10th September 1801.
Dear Wife,
(...) Among so many things that should certainly please me and are all too flattering, I do not become so conceited as to believe myself more than I am. I still prefer the tranquillity and sweetness of domestic life to a life stirred by vain glory. Thus, I long to return home, to embrace my dear children and all of you. But I fear it may not be as soon as I hope.
From a letter by Alessandro Volta to his wife, Teresa Peregrini

«Volta, Professor of Physics at the University of Pavia»
Bas-relief on the balustrade of the loggia of the Tempio Voltiano, by Pietro Clerici, 1927

«Volta, conversing with his fellow countrymen in Lazzate, foresees the telephone, saying: “The day will come when, thanks to my inventions, it will be possible to speak over a distance”»
Bas-relief on the balustrade of the loggia of the Tempio Voltiano, by Pietro Clerici, 1927

«Napoleon I pays homage to Volta in the Lecture Hall of the University of Pavia»
Bas-relief on the balustrade of the loggia of the Tempio Voltiano, by Pietro Clerici, 1927

« Volta at the Institut de France presents the battery to First Consul Bonaparte»
Bas-relief on the balustrade of the loggia of the Tempio Voltiano, by Pietro Clerici, 1927

17
Volta and Napoleone

One particularly symbolic moment in Alessandro Volta's life was his meeting with Napoleon in Paris in 1801, when the physicist from Como presented his newly invented battery to the First Consul. On this occasion, politics and science met at the highest level: politics explicitly acknowledged the fundamental contribution of science to progress, while science, in turn, seemed to recognise the necessity of engaging with politics for inventions to become truly beneficial. Europe was paving the way for modernity.

Volta explains the battery to Napoleon.
Fresco by Gaspero Martellini, based on a drawing by Nicola Cianfanelli, 1841. Florence, Tribuna di Galileo.

Volta explains the battery to Napoleon.
Painting by Giuseppe Bertini, 1871.
Varese, Villa Ponti.

Volta explains the battery to Napoleon.
Lithograph after the painting by Giuseppe Bertini, 19th century.

Volta explains the battery to Napoleon.
Jacquard silk fabric after the painting by Giuseppe Bertini,1899.
Como, Museo didattico della Seta (Como Silk Museum).

Allegory of Science in Classical Attire: Volta explains the battery to Napoleon.
Bas-relief in stucco by Pietro Ferroni, 1817. Como, Volta's Upper Secondary School.

Volta explains the battery to Napoleon.
Engraving by G. Turri after the relief by Pietro Clerici, 1927.

Volta explains the battery to Napoleon.
Lithograph published by the Parisian firm Turgis, 19th century.

Volta explains the battery to Napoleon.
Lithograph by Gallo Gallina, published by the Como company Bertotti, 19th century.

18
The Homecoming

Milan, 14th March 1814.
Dear Nephew,
(...) We are now in Lent, and an affliction has befallen my household that you can imagine has broken us deeply. The loss of my poor son Flaminio weighs so heavily on my heart that I fear I will no longer know happiness.
From a letter by Alessandro Volta to his nephew Alessandro

The death of his 18-year-old son Flaminio in early 1814 brought Volta closer to his friend from Como, Giovan Battista Giovio, whose son had died in the winter of 1812 while serving as a volunteer in Napoleon's army in Russia.
On 20th April 1814, Volta, along with other senators, was forced to flee Milan as a mob surrounded the Senate of the Kingdom of Italy. He sought refuge at the villa of the Counts Mugiasca in Villa Guardia, in the locality of Mosino.
Later that year, the restored Habsburg administration, seeking to encourage Volta's continued presence at the University of Pavia, appointed him Director of the Faculty of Philosophy. In 1819, Volta retired from public life and spent his remaining years between Como and his home in Camnago.

The rioting crowd sacks the house of Minister Prina on 20th April 1814
Painting by Giovanni Migliara, 1814
[Museo del Risorgimento, Milan]

The Congress of Vienna
Engraving by E. Godefroy, after a drawing by G.B. Isabey

Project for Villa Mugiasca in Mosino, Villa Guardia
Simone Cantoni,1786 - 1788

The rioting crowd sacks the house of Minister Prina on 20th April 1814
Painting by Giovanni Migliara, 1814
[Museo del Risorgimento, Milan]

The Congress of Vienna
Engraving by E. Godefroy, after a drawing by G.B. Isabey.

19
The End

At dawn on 5th March 1827, the engraver Giovanni Pedraglio was called upon to execute the portrait of Alessandro Volta, a world-famous citizen of Como who had just died. The funeral, according to testimonies of the time, was accompanied by «a huge crowd» of fellow citizens.
Maria Azzi Grimaldi wrote:
« Later will come the statues, the tombstones, the medals; who knows how many words will come later.»
Alessandro Volta».

Alessandro Volta
Burin print from a drawing by Giovanni Pedraglio, 1827.

20

1. Medal for the inauguration of the monument to Alessandro Volta. Created by F. Putinati, 1838.
2. Award medal of the Association for the Promotion of Commerce in Como. Created by F. Putinati, 1877.
3. Commemorative medal of the publication of the works of Alessandro Volta. Created by G. Beltrami, 1884.
4. Medal for the inauguration of the headquarters of the Circolo Alessandro Volta. Created by S. Johnson, 1886.
5. Award medal of the Italian Society of Electricity, 1889.
6. Award medal of the Italian Society of Electricity, 1891.
7. Celebratory portrait of Alessandro Volta. Miniature on ivory, 19th century.
8. Celebratory portrait of Alessandro Volta. Print on ceramic, late 19th century.
9. Medal from the Silk Industry Electricity Exhibition of 1899. Created by S. Johnson, 1899.
10. Commemorative plaque of the Silk Industry Electricity Exhibition of 1899. Created by S. Johnson, 1899.
11. Commemorative plaque of the 1899 Silk Industry Electricity Exhibition. Created by S. Johnson, 1899.
12. Medal from the International Competition of Telegraphists of 1899. Created by R.M. Lancelot Croce, 1899.
13. Medal from the Band Competition of 1899. Created by S. Johnson, 1899.
14. Medal from the Tourist Convention of 1899.
15. Commemorative medal of the Volta Exhibition of 1899. Created by R. Bravi, 1899.
16. Commemorative medal of the Volta Exhibition of 1899.
17. Commemorative medal of the centenary of the invention of the battery, 1899.
18. Plaque celebrating the centenary of the invention of the battery, 1899.
19. Medal dedicated to Alessandro Volta by telegraphists of all nations. Created by G. Lomazzi, 1899.
20. Medal dedicated to Alessandro Volta by the University of Pavia. Created by S. Johnson, 1925.
21. Medal from the Volta celebrations of 1927. Created by V. Caimi, 1927.
22. Medal from the Volta celebrations of 1927. Created by L. Boari and S. Johnson, 1927.
23. Plaque from the Volta celebrations of 1927. Created by V. Caimi, 1927.
24. Commemorative medal of the Tempio Voltiano. Created by V. Caimi, 1927.
25. Commemorative medal of the centenary of the death of Alessandro Volta. Created by V. Caimi, 1927.
26. Medal celebrating the centenary of the death of Alessandro Volta. Created by E. Boninsegna, 1927.
27. Medal celebrating the centenary of the death of Alessandro Volta, 1927.
28. Commemorative medal of the 50th anniversary of the founding of the Circolo Alessandro Volta, 1932.
29. Commemorative medal of the 150th anniversary of the death of Alessandro Volta. Created by B. Ponti and E. Castoldi, 1977.
30. Medal dedicated to Alessandro Volta by the Provincial Association of Artisans of Como. Created by B. Ponti and E. Castoldi, 1977.
31. Ten thousand lira banknote, fourth series “Alessandro Volta.” Issued by the Bank of Italy from 1984 to 2001.

21
The Exhibition of 1927

In 1927, the centenary of Alessandro Volta's death was marked with a great Exhibition, seen as a natural progression from the 1899 event. However, unlike the earlier exhibition with its scattered pavilions, this time the magnificent Villa Olmo, specially purchased in 1925 at the suggestion of engineer Enrico Musa—the main visionary and organiser of the celebrations—was used as the central venue.

The historic villa underwent significant renovations to accommodate the event. Two large wings, extending towards the lake, were constructed (partially inspired by the villa's original wings, which were demolished during late 19th-century renovations), along with a large pavilion along Via Simone Cantoni.

As in the late 19th century, the main themes of the exhibition focused on advancements in electricity, communications, and the silk industry. The most cutting-edge developments across all sectors were showcased, with the participation of leading industries. Special attention was given to the silk exhibition on the villa's second floor, featuring visually striking rooms designed by Luciano Baldessari, complete with almost surrealist and metaphysical mannequins by sculptor Aleksandr Archipenko.

The communication and promotional aspects of the event were also carefully considered. A large, illustrated magazine was published throughout the duration of the exhibition, while a dedicated company was formed to produce videos about the event.

The exhibition, inaugurated by King Victor Emmanuel III on 28th May, concluded at the end of the year to widespread public acclaim.

Aerial view of Villa Olmo with the exhibition pavilions under construction.
Photograph.

Cover of the Exhibition guidebook.
Drawing by Luciano Baldessari.

Official postcard of the Exhibition.
Drawing by Giulio Cisari.

Two views of the exhibition pavilions.
Photograph.

One of the halls of the silk Exhibition.
Design by Luciano Baldessari, mannequins by Aleksandr Archipenko.

22
The Tempio Voltiano

Commissioned by industrialist and patron Francesco Somaini (1855–1939), the Museo Voltiano was built to coincide with the exhibition celebrating the centenary of Alessandro Volta's death. The primary purpose of the project was to preserve and showcase Volta's relics—not only the few fragments that were saved from the fire in 1899, but also all the "memorabilia" that could, in any way, be connected to the eminent physicist and his connection to Como.
The design was created by architect Federico Frigerio (1873–1959), a prominent figure in Como's architectural scene at the time, who drew inspiration from the Roman era. However, the Temple is more aligned with the Palladian style and carries a general “neo-Roman” reference, quite removed from the local architectural context. Despite its classical appearance, the building’s structure is made of reinforced concrete.
The decorative elements were crafted by local artists. The statues of Science and Faith flanking the entrance were sculpted by twins Carlo and Luigi Rigola, who trained in Milan under Ludovico Pogliaghi before relocating to Cantù. The interior reliefs, depicting scenes from the life of Alessandro Volta, were created by Pietro Clerici from Como.

The Tempio Voltiano in an image from the 1930s.
Photograph by Antonio Mandelli.

The reinforced concrete framework of the Tempio Voltiano during construction.
Photograph.

Plan of the Temple at various heights.
Drawing by architect Federico Frigerio.

The main façade of the Temple.
Drawing by architect Federico Frigerio.

23
Events

In addition to the main Volta Exhibition at Villa Olmo and the construction of the Tempio Voltiano, numerous other events took place during the centenary year of Volta's death. These included the inauguration of the new multi-sport stadium at Campo Garibaldi (the site of the first Volta Exhibition), designed by engineer Giovanni Greppi, and the construction of the striking Volta Lighthouse in Brunate, designed by engineer Gabriele Giussani. High-profile cultural initiatives also featured prominently, such as the contemporary art exhibition at the Carducci Institute.

The façade of the new «Sinigaglia» Stadium.

A design drawing of the Volta Lighthouse in Brunate.

1. Poster design for the first centenary of Alessandro Volta's death.
   Drawing by Giulio Cisari, 1927.
2. Official invitation to the inauguration of the Tempio Voltiano, 1928.
3. Official medal of the Volta celebrations of 1927.
   Pewter, created by E. Boninsegna, 1927.
4. Official medal of the Volta celebrations of 1927.
   Gilded metal, created by E. Boninsegna, engraved by R.M. Lorioli and Castelli, 1927.
5. Positive and negative coinage for the inauguration of the stadium (30th July 1927).
   Iron, created by Vittorio Caimi, 1927.

24
The Congress of Physicists of 1927

The most extraordinary event held in 1927 to celebrate Alessandro Volta was the 'International Congress of Physicists'. It was opened on 11th September by Quirino Majorana, president of the Italian Physical Society, and concluded on 27th September.

At a time when 'quantum mechanics' was laying the foundation for a new worldview, all the key figures of this remarkable intellectual movement were invited to Como. The only notable absentee was Albert Einstein, who refused to participate due to his staunch opposition to Mussolini's regime.

Some of the 61 participants were very young: Wolfgang Pauli was 27, Werner Heisenberg, Enrico Fermi, and Franco Rasetti were 26, and Paul Adrien Maurice Dirac was 25. Ten Nobel Prize winners in Physics were present: Niels Bohr (Nobel in 1922), James Franck (1925), Max von Laue (1914), Max Planck (1918), William Lawrence Bragg (1915), Guglielmo Marconi (1909), Hendrik Antoon Lorentz (1902), Arthur H. Compton (1927), Pieter Zeeman (1902), and Robert Millikan (1923). Additionally, the first two Nobel Prize winners in Chemistry, Francis W. Aston (1922) and Ernest Rutherford (1908), also attended.

After visiting the University of Pavia on 17th September, the participants moved on to Rome, where Guglielmo Marconi gave a commemorative speech before Mussolini in the Capitoline Hill.

The Congress marked the official inauguration of quantum mechanics. During the event, Bohr, addressing the new epistemological questions, introduced for the first time the 'principle of complementarity', which sought to resolve the issue raised by Louis de Broglie regarding the wave-particle duality of physical entities. Bohr argued that these aspects were complementary representations of a single reality, 'which mutually exclude each other'. Fermi presented his quantum theory of the ideal gas.

Finally, the participants recognised Alessandro Volta's priority in discovering the law of the uniform isobaric expansion of air and vapour, which had been mistakenly attributed to Gay Lussac, who extended its validity to all gases.

The group of participants at the Congress of Physicists in front of the Carducci Institute
Photograph by Luigi Mazzoletti
(Como, Public Library)

Some participants of the Congress of Physicists
Images published in the official journal of the Volta Exhibition
Some of the young participants at the Congress, who later became highly influential theorists
Post-war images

25
The Exhibition of 1899

The centenary of the invention of the battery was celebrated in Como with a great exhibition, styled after the many universal exhibitions held in the major European cities throughout the second half of the 19th century.
Preparations for the event began long in advance, with studies and designs accumulating in the preceding years, including suggestions from prominent professionals like Milanese architect Luigi Broggi. Ultimately, however, the realisation of the project was entrusted to engineer Eugenio Linati from Como.
A vast exhibition ground was planned on a large undeveloped area along the lakeshore, adjacent to the urban centre. The site featured an expansive central pavilion with several secondary rooms. The main façade, facing the city, was designed in the Empire style, referencing Volta's era. At each end of the loggia stood two tall towers in the form of electric bactery, one of which housed an ultra-modern lift, allowing visitors to ascend to a belvedere with an unparalleled view of the city.
The key concept of the exhibition was the single pavilion, enabling visitors to enjoy a continuous, covered tour—taking them from Volta's relics through the latest technological achievements to the finest products of the silk industry. The only separate structure was the art pavilion, which showcased numerous examples of historical art styles alongside contemporary masterpieces.
It was the isolation of this art pavilion that saved it from destruction when, on 8th July 1899, a fire ravaged the rest of the exhibition—constructed primarily from wood.

Aerial view of the exhibition pavilions in Campo Garibaldi.
Xylograph.

One of the big batteries under construction.
Photograph by Giulio Galli.

Official postcard of the Exhibition.
Drawing by Giulio Cisari.

Interior of a pavilion at the first exhibition.
Photograph.

Drawing of the second exhibition.
Lithograph.

26
Events

With a decidedly modern approach, the Volta Exhibition complemented its pavilions with a range of promotional initiatives of various kinds: specially designed posters, countless commemorative postcards, meetings, and social outings. Special attention was given to music, with Giacomo Puccini, one of the greatest composers of the time, creating a march aptly titled *Scossa Elettrica*, while Lorenzo Perosi premiered his oratorio *Il Natale del Redentore* in Como.

Como Cathedral was filled to capacity for the premiere of Lorenzo Perosi's oratorio.

Frontispiece and first page of Giacomo Puccini's *Scossa Elettrica*.

1. Wire from the first Morse electric telegraph of 1844.
   Gift from the United States of America, 1899.
2. Girl at the loom making scarves for the Volta celebrations of 1899.
   Silk fabric from a design by Di Capua, 1899.
3. Medal from the Silk Industry Electricity Exhibition of 1899.
   Bronze, produced by the Johnson firm, Milan 1899.
4. Medal of the International Telegraph Competition of 1899.
   Bronze, by R. M. Lancelot Croce, 1899.
5. Medal of the National Congress of Electricians of 1899.
   Silver, produced by the Johnson firm, Milan 1899.
6. Commemorative medal of the first performance of *Il Natale del Redentore*.
   Gilded metal, produced by G. Lomazzi, 1899.

29
The Fire of 8th July 1899

In the magazine of 15th July 1899, the first published after the disastrous fire, expressions of shock and disbelief were abundant: « The white, beautiful, seductive fairy, who wandered over the mirror of the lake, has vanished like a spell, leaving in everyone's heart an indelible regret.» The chronicler continued: « Do not ask me how it happened, how it began, or why the devastating fire broke out. Who will ever be able to extract the fatal truth from those ruins, extinguished in a final twist of agony? The most widely accepted rumour is that two conducting wires came into contact underground.» Ironically, if this were true, the exhibition created to celebrate electricity would have been destroyed by electricity itself.
«*Post fata resurgo*»: within days, the decision was made to rebuild. Once again, engineer Eugenio Linati was tasked with designing the new pavilions, this time dividing them into several independent rooms with a vague neoclassical inspiration. These were more elegant, though also more ostentatious, than the original.
The exhibition reopened on 20th August, and the steady flow of visitors resumed. Attendance peaked on Sunday, 8th October, with nearly 6,500 admissions, while the highest weekly average occurred between 18th and 24th September. Though much of the Volta's memorabilia was lost in the July fire, the enthusiasm certainly was not.

The ruins of the exhibition after the fire.
Photograph.

10:05 a.m.: The fire, starting in the marina gallery, spreads towards the central circle.

10:09 a.m.: The circle is engulfed in flames.

10:15 a.m.: The Stiegler tower catches fire.

10:20 a.m.: The flames reach the machine gallery.

10:25 a.m.: The relics are at risk.

10:30 a.m.: The fire becomes general.

Sequence of the fire, taken from the Viale Cavallotti area.
Photographs by Achille Corti.

30
Relics and Novelties

After the fire in July, the city's pride was invested in the swift reconstruction of the pavilions, where the marvels of modern technology and industry would once again be displayed. Alongside these, carefully preserved relics of Volta's instruments, which had miraculously escaped the devastating flames, were reverently showcased.
Modestly, the official journal of the Volta Exhibition focused on the images of the new buildings, without drawing attention to the severity of the losses.

Overall view of the new exhibition pavilions inaugurated 43 days after the fire.

1. Remains of the Voltaic instruments destroyed by the fire on 8th July 1899.
2. Original electrophori instruments that survived the fire.