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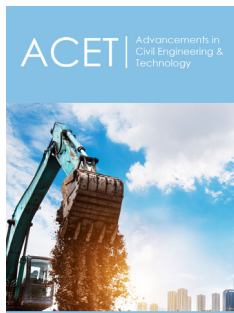
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# Studies about Guarino Guarini's between 19<sup>th</sup> and 20<sup>th</sup> Century. Notes on Giovanni Vacchetta's Manuscripts

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## Abstract

The studies about the Baroque during the nineteenth century expresses a negative evaluation of the buildings, considered strange and bizarre. Guarino Guarini (1624-1683), the famous mathematician, engineer, philosopher, was considered negatively, but a group of scholars since the second half of the nineteenth century attempted to think about his works with a different point of view. Based on the research in archive and in the library, applying the methodology of the historical research discussed at that time, they wrote and published the first studies about the Baroque and about Guarini too. Giovanni Vacchetta, a professor at an Italian school for mechanical engineers, the Museo Industriale now Polytechnic of Turin, started his studies about the Theatine on an analysis of the references already published. He compared the bibliography, moving up the traditional method of the research adopted nowadays, with the drawings available in the archives and in the collections of the libraries. He examined, with the references, the material sources in a period during which the historians worked in the archives to write a biography or to explain an historical event. Vacchetta read, wrote and sketched to know, for his research and teaching, the buildings, underlining Guarini's presence in Turin through his Holy Shroud chapel, Saint Lorenzo church, Carignan Palace and others architectural works then discussed and reattributed by the critics. His research and his methodology of historical research become a tool to analyze the so-called Piedmontese Baroque with a different critical approach. In the topic of the history of the engineering, the studies conducted between nineteenth and twentieth century about Guarini become an experimentation which uses the transformation of the negative judgment about him in first appreciation like a tool to study his works, in the fourth century of his birth (1624-2024), with a different point of view.

**Keywords:** Baroque; Eclecticism; Research; Methodology; Teaching; Experimentation; Piedmontese baroque; Holy shroud chapel; Saint lorenzo church; Turin

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## Introduction

Interesting topic belonged to the area of the history of the engineering (and of engineering too) during the second half of the twentieth century, Guarino Guarini's works were not a permissible subject in the century before, especially after the diffusion of some literature against the Baroque. Anyway, some scholars considered his work in their research and decided, at least since the second half of the eighteenth century, to examine his buildings, many times cited in the first touristic guides since the 18th century. The research, here, is focused to improve the knowledge of Guarini's critics before the general, well-known reassessment of his figure in the twentieth. At the same time, it arises as one step of a much broader analysis centered on the critical studies about Baroque and Guarini, when the Eclecticism was diffused especially in the European architecture. The not-published manuscripts written by Giovanni Vacchetta between nineteenth and twentieth century, nowadays property of the Society for Historical, Archaeological and Artistic Studies for the Province of Cuneo, permits to know and to discuss the methodology chosen by a professor of the Royal Italian Industrial Museum, then Polytechnic of Turin, for his lessons and scientific analysis.

Theatine, Guarino Guarini was born in Modena, on 17 January 1624, and he died in Milan, on 6 March 1683, when he was fifty-nine. He applied to join the religious order when he was young, in 1639, following the choice of his brother and then, only a few months after, he travelled to Rome where he lived and studied the buildings—well known material sources - realized by Gian Lorenzo Bernini, Francesco Borromini, Pietro da Cortona, the Italian architects who wrote the main pathways of the Baroque in Rome. Guarini was in Messina, in Paris, in Vicenza, in Turin. In his drawings, even if sometimes never realized, it's possible to identify different point of views, inside and outside of each building, almost inside and outside of each drawing. It isn't within this article that it's possible to tell Guarini's life and it isn't the aim of this research; however, it's interesting to remember his interests and his knowledge in mathematics, geometry, philosophy, architecture, engineering, conveyed in his written text, not only in architecture, and in his architectural works.

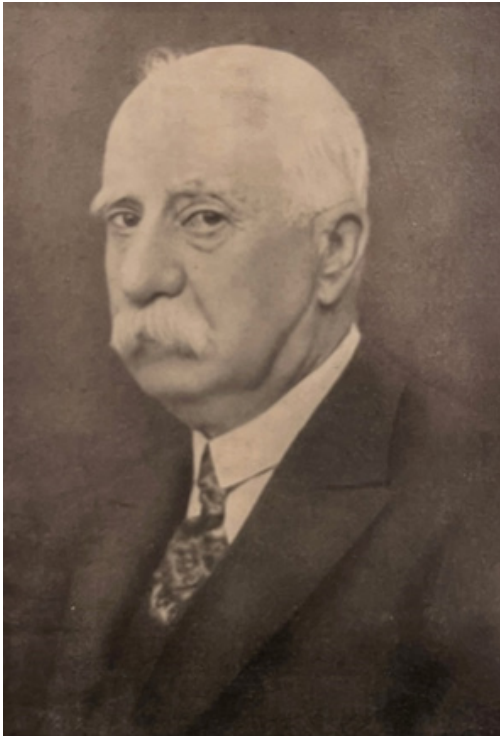
According to the traditional studies, the first critical analysis of one Guarini's architectural works was about Sainte-Anne-la-Royale church in Paris: the "Journal de voyage du chevalier Bernin en France" published by Paul de Chantelou in 1885 [1] cites words of appreciation - «Credo che sarà bella» in Italian language - mentioned by Gian Lorenzo Bernini, with his some technical opinions, on 14 June 1665, while the building site of the church was opened. After him, Guarini was included in the general negative judgment about the Baroque: Francesco Milizia, in 1768, recognized the relationship with Borromini, but he underlined the strange, the bizarre of both architects; according to Milizia, in his negative evaluation, a man who appreciated the Baroque was a crazy man («Anyone who likes Guarini's architecture should do him good, but stay among the crazy people») [2]. In the same years, Antonio Francesco Vezzosi (1780) in his studies about the Theatine and Girolamo Tiraboschi in his book "Notizie de' pittori, scultori, incisori, e architetti" (1786) repeated the negative opinion. After the Napoleonic period, during the diffusion of the Neoclassicism, Stefano Ticozzi in his dictionary commented Guarini's death such as an «advantage for the art» (1831) [3] and Antoione Quatremère de Quincy, evaluating the bizarre of the Baroque, identify Borromini and Guarini two «teachers» of an unusual and «strange architecture» [4]. In 1791, Angelo Comolli examined Guarini's written work about Euclide and his studies about geometry; leaning on this book, probably at the time «not diffused», he tried to re-consider the rule of the Theatine priest in the studies about scientific topics applied in architecture [5,6].

A new interpretation about Guarini was published in 1860 by Amico Ricci who, based on an analysis of Carlo Promis, underlined the in-depth knowledge of the Modenese about the static art and about the use of brickwork, probably sometimes with iron, in the structures of the domes of his churches and palaces [7]. Ricci's book, characterized by a title which distinguishes history of architecture

from history of art, described Guarini's works in Turin, analyzing the Holy Shroud chapel, San Lorenzo church and Carignano Palace. The not hidden aim is to tell the story with a critical approach, informed of the previous negative critics, but opened to another thought. Thirty years after it was published another reevaluation of him, signed by Tommaso Sandonini who, based on Modena's archives, wrote the first biography of the mathematicians, an «important work» [2,8], a rich text based on methodology of historical research during the nineteenth century.

It's not possible to consider here all the critics who wrote about Guarini in Vacchetta's time, but it's interesting to remember, close the Italian literature, the studies of the cultural area of the Central Europe, between Suisse and Germany. The fundamental analysis of Jacob Burckhardt about the Renaissance and Heinrich Wölfflin's thesis, which reevaluated the Baroque culture in the book "Renaissance and Baroque" (1888) [9], offer other tools for studying. In 1877, Cornelius Gurlitt related Guarini's studies about science with his figure of priest, a religious man active involved in civil engineering and in architecture [10]. In this direction, the critics gradually underlined the importance of the «very famous engineer», such as Guarini is called in the documents in Turin's archives. During the twentieth century, in the Twenties, historians and critics improved the previous studies about the Modenese and delved into him, supported by the positive attitude towards the Baroque culture. In this cultural milieu, Giovanni Vacchetta wrote his notes for teaching and studying, probably to explain artistic and architectural history of the seventeenth century to his students in the Royal Industrial Museum, focusing his teaching on the drawings, on the technics and on the technologies for the ornament.

Giovanni Vacchetta was born in Piedmont, in Bene Vagienna, on 2 February 1863 and he died in Fossano, not far from Cuneo, in 1940 (Figure 1). He lived in Turin where he studied in the Accademia Albertina di Belle Arti and he became a "teacher of drawing", a specific qualification that authorizes the young professor to work in one of the main technical and professional school in Turin. He was a student of Annibale Rigotti, one of the most famous technicians who worked in Bangkok, and he became attached to his family. In 1889 he won the public exam to be a professor of the Royal Industrial Museum, founded in Turin in 1862 with the aim of sustain the education in industrial topics towards the progress; until 1935, for more than forty years, he educated more than one generation of mechanical engineers, teaching ornamental drawing, industrial ornamental drawing, and decoration. It's possible to identify his methodology of research in his teaching, before in the Industrial Museum and after 1906, when the institution was blend with the Royal Application School for Engineers in Torino, in the Polytechnic of Turin. An accurate analysis of the material source, a survey with measure or a perceived survey explain, with drawings and notes, his scientific attention to each topic, carefully searched and investigated during his copious travels not only around Italy.



**Figure 1:** Giovanni Vacchetta (private archive).

## Materials and Methods

The outcome of Giovanni Vacchetta's research is, for how long it has been preserved, a very rich documentation organized in folders and in an interesting card catalogue, a precious tool to study the analysis of the professor about Guarini's works. The Vacchetta's archives are now in the Museo Civico (the museum of the Municipality) of Cuneo, in the headquarters of the Society for Historical Archaeological and Artistic Studies for the Province of Cuneo, in the museum so-called Casa Ravera and in a private archive. The documentation of the card catalogue consists in a lot of written sheets, relates to many cities, organized in alphabetical order; for each city, the teacher wrote a text, sometimes related to a group of drawings kept in specific folders, ordinated too. At the current situation of the research, for this article, the materials useful to study Guarini are available in the card catalogue in which, in many sheets, the academic wrote and draw his ideas and his points of view about the main Guarini's buildings. The research now choses Guarini's works in Turin, existed churches and palaces, and it puts off to other studies other cities, and other buildings, in which the Theatine engineer worked. The next analysis should be about Vacchetta's studies about Guarini's works in Racconigi (Piedmont), in Vicenza (Veneto), in Messina (Sicily) or in Paris.

Considering the research nowadays, it's possible to explain Vacchetta's use of the historical sources and his methodology of historical research. In his archive, the drawings are above all sketches represented the whole buildings or a detail; each group of sketches is often related to notes or to the written synthesis of some studies. It comes to light the method and the aim of the professor, learnt when he was young and then repeated many times: in 1886 he obtained the license of teacher of drawings and he won a prize

for a travel around Italy, probably a legacy of the eighteenth-century grand tour for education, during which he learnt to study, with the publications, the material sources. Vacchetta analyzed the literature, studying scientific publications or at the same time the touristic guides, and he identified the main and significant buildings in each area.

The card catalogue refers his readings, his notes, sometimes his visual analysis of the main buildings of a city, short or long written texts about many topics, historical celebrities, main families, religious orders or clients who worked with the architects or the engineers in many cities of Piedmont and outside of it. In the long, interested list, it's possible to identify notes and drawings sometimes the only documents about a church or a palace which is no longer existed today. The notes and the list explain Vacchetta's knowledge. For each building, the professor wrote the author of book he was reading and a short synthesis of a paragraph of it referred to the specific building that he is studying. It derives the theories, and the attributions, considered between nineteenth and twentieth century. At the same time, the catalogue is a tool to know the library of a professor at a school for engineers.

In the archive, there aren't a lot of papers referred to Vacchetta's studies about Turin, but it's possible to identify his interests about the main buildings of the city. However, his manuscript about the first capital-city of Italy offers a new point of view about his research. The critics, in fact, for many years consider the professor of industrial ornament in the school of the mechanical engineering an important scholar interested above all in the ancient period and in the Middle Ages architecture, with only a few focused analyses about specific building built during the early modern period such as the sanctuary of Vicoforte or about the Jesuit religious order in Mondovì. Examining in depth other documents, it emerges his attention about the Renaissance and the Baroque, even if Vacchetta has lived in a period during which the judgement about it was negative. The sheets about Guarini, chosen in the catalogue such as a first case-study to analyze his studies about the early modern period in architecture, confirms his interest, his scientific method and his attention towards the Baroque and toward Guarini, a not appreciated architect in his time. In the sheets about Guarini, Vacchetta described exactly each building, underlining the main elements to prove the meaning and the importance of the Theatine. He described and read in-depth the geometry, the plan and the volume of each building, listing his main architectural works in Piedmont.

In this article, argued here a thesis never published before, Vacchetta's notes are examined applying the traditional method of historical research, usually adopted not only in the topic of history of architecture and of history of engineering. The methodology is based on the use of the historical sources, primary and secondary ones, chosen by the famous teacher to discuss and examine Guarini's production. Each source, written text or drawing, is considered to verify the validity, the periodization, Vacchetta's idea in comparison with the bibliography which considers negatively the work of the religious man. According to the historical sources, Vacchetta decided to analyze the Baroque and Guarini for his historical



research for his studies and for teaching, thus contributing to affirm a not diffused point of view in his time.

## Results and Discussion

«Behind the high altar, and lit by a stained-glass window above it, is Guarini's De Sudario Chapel, chiefly of black polished marble, with six windows in it, and a cupola on columns, at the top of which is a marble crown ... the dark color of this chapel gives it a very somber appearance» [11]. The very famous Bradshaw's guide, printed for the railway tourism, introduced Guarini's work commenting the Holy Shroud chapel, located between the ducal (then royal) palace and the cathedral of Turin. It's the chapel set on fire in 1997 and then restored [12-14] (Figure 2). Guarini, invited in the dukedom of Savoy in 1666, built there his main work: an intricate basket of arches, ribs, empty spaces, projected-citing the order of the duke Carlo Emanuele 2nd and the document written by the Municipality – only to finish the chapel. The touristic guide underlines the dark atmosphere wanted by the architect because the chapel was built for the «holy napkin», the main relic (according to the culture of Guarini's period) of the Savoy's family.

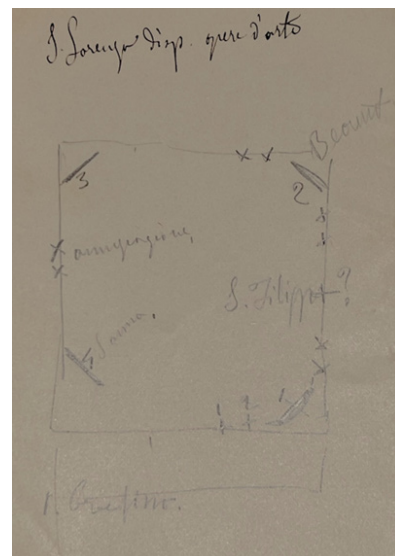


**Figure 2:** Turin. Holy Shroud chapel, 2024 (photographer E. Gianasso).

In his manuscript [15] Vacchetta wrote the story of the difficult project, opening his note with the list of the engineers who worked in the building site before Guarini. It's interesting to underline his method, considering the Holy Shroud chapel such as a case-study: in the second sheet Vacchetta cited an article published by Camillo Boggio, specifying the shelf mark (signature) of it in the Royal Library of Turin. Boggio was a scholar interested in studying the history of Turin, one of the first authors who discussed the so-called «Piedmontese Baroque» positively, without forgetting the not famous piedmontese engineers and, above all, making clear the «necessity» of writing an history of Baroque. Choosing some specific books, Vacchetta explained his positions, not against the Baroque culture. At the same time, his attention to the shelf mark of the book and immediately after, the reference to Guarini's drawing, nowadays clarify his scientific method of his historical research, in the period during which many authors discussed the methodology of the historical research. In the following sheets he analyzed other bibliography, chosen with the same critical approach towards the

seventeenth century, interesting tool useful to pointing out the period during which Vacchetta studied the chapel. The professor, for his studying and for teaching, read Antonio Bosio's work dated to 1858, the books of Giuseppe Sugana who wrote about the royal Italian palaces in 1871, a text of 1881 written by Luigi Rocca, Pietro Baricco and his «Torino descritta» published in 1869, Camillo Boggio (1896) and other books published in the second half of the nineteenth century. At the end, he cited a collection of drawings of the National Library of Turin: all sources permit to know the period of Vacchetta's manuscript about the Holy Shroud chapel, thus dating to the last years of the nineteenth century.

Vacchetta's written text about Guarini's chapel, without drawings in the card catalogue and in other folders, opens the studies of the piedmontese professor about Guarini in Turin. In the subject matter of the methodology of the historical research usually adopted in the second half of the nineteenth century, it's interesting to underline the critical discussion about the historical sources, examined by the piedmontese scholar in detail. In the card catalogue, about Guarini in Turin, Vacchetta cited the first project for Saint Filippo church, already existed – he wrote – «in 1714 when Filippo Juvarra arrived in Turin», the Saint Lorenzo church and Consolata church, this one probably designed in 1679. In the sheet about Saint Lorenzo church, Vacchetta asked himself, with the punctuation mark, if the Theatine had really designed the church and he wondered about Guarini's date of death. The method is the same nowadays adopted: Vacchetta choses significant books for his historical analysis and searches in other sources, such as historical catalogues of drawings or local studies. In attach to his written notes, there is a sketch that shows Saint Lorenzo church plan (Figure 3); nowadays it's possible to discuss his drawing because of the dedication of the altars, of Saint Gaetano instead of Saint Filippo recognized by the professor in the lateral altar or other saints in the chapels in the corners. It's a confirm of the date of the notes: the studies about the theatine church in Turin were just opened between the nineteenth and the twentieth century.



**Figure 3:** Giovanni Vacchetta. Saint Lorenzo church plan. Sketch.

The notes about the civil buildings, Vacchetta ascribed to Guarini the Carignano Palace, the Po gate, the attributed palazzo Provana and the attributed College of Nobles, then the headquarters of the Academy of Sciences, nowadays considered a controversial and wrong attribution. However, about the Collegio, Vacchetta underlined the difference between the years between the first idea for the building, commissioned by the Jesuit religious order, the hypothetical project of Guarini and the end of the building site, according to him in 1688, five years after Guarini's death.

## Conclusion

The never published research about Vacchetta's studies about Guarino Guarini is an experimentation and it offers, thus, a new knowledge, useful between history of architecture and history of engineering or, better, in their historiography. Considering a professor in an old school for mechanical engineers, his notes and his methodology, the research tried to study Guarino Guarini – in the fourth centenary of his birth (1624-2024) - with a different point of view, focusing the attention to a period during which Guarini was not appreciated.

Starting the critical analysis with a negative evaluation about Guarini, following with a new experimented revaluation of him, the scholars who studied his unusual buildings without an in-depth knowledge of the science of construction offer a method to rethink about the so-called Piedmontese Baroque, a discussed locutions since the Sixties of the twentieth century. Vacchetta's research, mainly based on the historical sources, primary and secondary ones, wanted to study Guarini and the Baroque with the same approach adopted by him for other architects, with the same in-depth knowledge, with the same method adopted to examine works and architects closer the more diffused taste during the Eclecticism, centered to a revaluation of the Medieval culture.

Proof of the historical research and of the methodology usually adopted between nineteenth and twentieth century, Vacchetta's studies about Guarino Guarini's works become a tool to open new research, modifying the first appreciations of the negative judgment about Guarini in a tool for thinking and studying his figure with different eyes.

## Acknowledgements

Giovanni Vacchetta's family

Society for Historical, Archaeological and Artistic Studies for the Province of Cuneo

## Conflict of Interest

None

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