## FILIPPO TERZI AND 16TH-CENTURY ARCHITECTURE IN ITALY AND PORTUGAL RESEARCH TRADITIONS AND NEW PERSPECTIVES

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### **RESUMO**

Filippo Terzi (1520-1597) was born in Bologna, but grew up in Pesaro, a town where goldsmiths and clockmakers, such as his father, prospered, and where mathematical studies were cultivated. An architect at the court of the Della Rovere, a lively centre of sixteenthcentury Italian culture, he accepted the invitation of King Sebastião in 1576 to come and work in Portugal, and thereafter was greatly favoured by Filipe II. In the late nineteenth century, the historiography of Portuguese architecture attributed him with having played an essential role in its development, and we might also consider that he represented an important link with Italian culture during the last quarter of the sixteenth century. The political affinities between the two countries in the 1930s encouraged the publication of a number of parallel studies about this particular time, bringing to light several important documents, but also leaving us with an ambiguous legacy, which needs to be clarified in order to safely reconstruct the history of that period. The list of his works remains unclear and no documents have yet been found, either in Italy or in Portugal, that serve to establish this in an unambiguous fashion. A manuscript acquired by the Portuguese National Library in 1989 bears his name, but it cannot be ascribed to him with any safety, as this article shows. Perhaps this uncertainty has discouraged scholars in Italy from looking more deeply into this matter, although the culture of Pesaro and Urbino in the second half of the sixteenth century, including the scientific developments that took place there, is currently being fully re-evaluated. In Portugal, research into this same period has been more intense and studies have gradually resulted in more convincing models for its interpretation. The stereotypical view of the Renaissance, which describes it as irradiating from Italy as its centre, has been substantially revised: from the first half of the sixteenth century onwards, the Renaissance was a shared culture, expressing the shared vision of Europe's social and professional elites and leading to widespread cultural exchanges all across the continent.

Terzi's institutional role is essential for recognising and understanding his work. As the coordinator in chief of the Portuguese kingdom's most significant architectural projects at that time, his importance has necessarily been judged in accordance with the complex mechanisms and the numerous authoritative opinions that shaped the decision-making processes of the Spanish monarchy, to which Portugal belonged between 1580 and 1641. Since he was responsible – with varying degrees of influence – for the transition from the design to the realisation of architectural projects, his experience of Italian building sites proved crucial in helping him to adapt to different Portuguese building traditions, particularly those that were based on stone constructions and involved the use of stereotomy. This aspect remains relatively unexplored and would seem to be a most promising avenue for future research.

### 1. FILIPPO TERZI AND THE PORTUGUESE RENAISSANCE IN NINETEENTH-CENTURY HISTORIOGRAPHY.

As far as the history of Portuguese architecture is concerned, it was only in the last decade of the nineteenth century that Filippo Terzi was first attributed with a major role, when the positivist historiography that was typical of that time began to systematically reconstruct the Renaissance period. Karl Albrecht Haupt (1852-1932)<sup>1</sup> devoted two volumes to the subject of Portuguese Renaissance architecture – the first dedicated to the capital city, the second to the other regions of the country (Haupt, 1890 and 1895, respectively) – which promoted the country's image within the fast-developing reality of that time: the new German Empire. In the introduction to his work,<sup>2</sup> he addressed the honorary consul of Portugal in Hannover and the Minister Plenipotentiary in Berlin, the Marquis of Penafiel, as if they were his customers rather than his actual sponsors, continuing the traditions of cultural exchanges initiated by the cultured and curious Prussian Minister in Lisbon, Count Raczynski. During his travels, which he began in 1885, Haupt certainly came into contact with earlier local and international literature on the subject of his research, which he then made copious use of, necessarily also repeating its many inaccuracies.

Haupt was the brother of an art historian who compiled a heritage inventory of Schleswig-Holstein, and he revealed clearly nationalistic inclinations in his writings about both contemporary architecture and the architecture of the Germanic peoples. He earned for himself a reputation as a specialist in the Renaissance, acting, so to speak, as a historian in discussing the national question of Heidelberg Castle. As was customary at that time, he concentrated in particular on the fifteenth and sixteenth centuries, analysing the questions that arose on a European scale. He wrote books on the Renaissance in France, Germany, Spain and Portugal (the latter representing a summer his more youthful production – Haupt, 1927), all of which were included in the great series on architectural history Geschichte der neueren Baukunst, founded by Fritz Kugler in 1861. This collection was later enlarged by Jacob Burkhardt and Wilhelm Lübke, and came to incorporate Gurlitt's famous books on the Baroque. Haupt also published an updated edition of Lübke's works in 1910. In this way, he demonstrated that he formed part of a highly prestigious tradition, which he was clearly determined to renew, at least in intention. Haupt did not conceal his lack of interest in discussing Terzi's personal contribution, seeing the latter's work as being little more than a reference to a school or a group of builders and architects. He attributed this school with the designs of certain churches in Lisbon, as well as some buildings in Coimbra, which together formed a sufficiently coherent set of works, each with their own recognisable (and local) features, while also displaying the latest trends of their time. He compared these buildings - more than Terzi's own work - with the *Claustro dos Felipes* in Tomar, and with the convent of Nossa Senhora da Serra do Pilar in Porto, in which there are major doubts about Terzi's actual involvement.

The pictures published in the Portuguese edition effectively support this interpretation and reflect his training as an architect and his experience as a builder, which he developed alongside his studies. Generally consisting of detailed, close-up views, the pictures are used to select and then to emphasise particular aspects of construction. He also often made use of line drawings to highlight certain features, in particular the cut of the stone. Using a detailed survey as his study tool, Haupt made the careful examination of buildings – both their form and the manner of their construction – one of the central instruments of his historiography, with which he introduced the idea of the building as the main source of its own history. This procedure was further consolidated

<sup>&</sup>lt;sup>1</sup> On Haupt, see Lino (1939) and Stille (1969). The relationship between Haupt and Lino can be very well explained by the design choices adopted by the Portuguese architect, which reflected the regionalist historicism of the first years of the twentieth century, viewed in Germany as a "moderate" way of overcoming eclecticism.

<sup>&</sup>lt;sup>2</sup> See the introduction in Haupt (1888).

in the volumes that he published from 1886 to 1922 on the Renaissance palaces of Northern and Central Italy: these contained, city by city, surveys in the form of geometrical line drawings and orthogonal projections, with both floor plans and elevations, together with some photographs and decorative details, which an eclectic architect could copy. Schematic, but not inaccurate, these drawings represented a kind of transition from the academic traditions sublimated by Paul Letarouilly (which, on the one hand, they regularizing while, on the other hand, turning them into picturesque views) to the building surveys conducted in the late positivism, which searched for a more specific and detailed notation of the constructive aspects. Haupt interpreted the Portuguese Renaissance according to the methods and standards of the German history of art and architecture, and thus in keeping with the requirements of a specialist publication.

During this same period, Francisco Marques de Sousa Viterbo opened up another fundamental line of research with the publication of his dictionary: the history that he produced was mainly founded upon a rigorous and critical analysis of the written sources and bibliography, and the actual publication of these documents was its most essential moment. Terzi's biography, his institutional role and the building sites at which he worked were all outlined with some precision, albeit limited in nature, which the ensuing bibliography expanded upon, but did not substantially change (Sousa Viterbo 1898-1922, vol. III).

### 2. ITALIAN STUDIES IN THE 1930s.

Within the context of a relationship with Italy that was founded on the existence of similar authoritarian political regimes, the resumption of studies about Terzi and sixteenth-century architecture in the early years of the Estado Novo was marked by close personal ties and a clear hierarchy of roles. A skilled Italian cultural attaché, Guido Vitaletti, attempted to find a place for his father-in-law. Guido Battelli, who had followed him to Portugal, as a Lecturer in Italian Studies at the University of Coimbra. Battelli was a rich dilettante from Sarzana who lived in Florence, a kind of "humanist Jack of all trades". He left behind more than thirty articles, pamphlets and monographs in the field of architecture and art history, as well as a number of translations and literary and poetic works (Apa, 1993). This quite considerable publishing activity relied greatly on his clever manipulation of public relations, which was simultaneously both a tool that provided him with the contents for his writing and the main purpose of the writing itself. Battelli's game was soon rumbled, however, and he lost his position as a lecturer in Coimbra after just one year, in 1930, although he continued to enjoy the support of the ill-fated Portuguese Foreign Minister, Henrique Trindade Coelho, the son of a famous writer, who, after being removed from office, was later compensated by being appointed to the post of ambassador to the Vatican.

Battelli did not simply limit himself to treasuring Haupt's book, but also made use of Watson's work (Battelli, 1929, p. 7), which covered the whole of Portuguese architectural history, from its origins to the early twentieth century. The author was an architect who illustrated his work only with architectural plans placed alongside photographs. This was to become the accepted pattern for the remainder of the twentieth century in the production of texts about architectural history, especially when they were conceived as a particular variant of art history. Watson's book served as a kind of architectural guide, full of information about the state of preservation of the buildings and their context, offering an overall picture intended mainly for an educated readership, but one that did not require any specialist expertise. Watson's sources were the nineteenth-century anthologies or monographs written on individual sites or monuments. Although he quoted from Haupt, he did not accept his thesis about the cloister of Tomar, mainly in deference to the earlier literature on this subject. His direct expression of his gratitude to Joaquim de Vasconcelos (Watson, 1908, VIII) was probably due to the support that was readily offered to all initiatives promoting knowledge of Portugal abroad by this famous scholar, whose studies on Romanesque architecture and the applied arts were highly regarded during the first decades of the twentieth century. Given Battelli's inclination for cultivating personal relationships, Watson's book perhaps encouraged him to enter into contact with the now quite aged scholar, whose edition of Francisco de Hollanda's treatise on painting he actually quoted from (Battelli, 1938, p. 244), although he got the dates wrong (the first edition was published in 1918, the second in 1930, and not in 1929). Some less reliable supports that he also quoted from were the Hachette guide (Bertaux, 1916) and the more academic essays by Emile Bertaux (Bertaux, 1911 and 1913) in the *Histoire de l'art* edited by André Michel. With its eighteen volumes on architecture, sculpture, painting and the decorative arts, this latter work had more universalist ambitions than its German counterparts, but it was even more inaccurate. Bertaux attributed to Terzi the church of São Vicente de Fora "*dont la coupole rebâtie domine la ville*", and illustrated its interior with a view of the church of Mafra, as is indicated by the use of a wrong caption (Bertaux, 1913, p. 823).

The contents of this work were not brilliant, and moreover Battelli was not sufficiently skilled to be able to directly research the documentary sources themselves. Therefore, despite his four-year stay in Portugal (1928-32), he also repeated the unfounded arguments of the earlier literature, and the small differences that he showed from these were only due to the publication in 1922 of the last volume of the dictionary by Sousa Viterbo.

As far as the buildings were concerned, since "there is in Portugal no publisher of artistic photography" (Battelli, 1935) – in other words, nothing to compare with the very useful Alinari – he spent his time "collecting the best photographs that the generous contributions of private individuals have placed at my disposal", who also lacked the most basic instruments of direct documentation.

Battelli's methodological shortcomings and his lack of technical knowledge also helped to fuel the typical debate that took place during these years, motivated by nationalistic sentiments, and in which attention was focused on the great cloister of Tomar and the corresponding "nationality" of its author. Among the most easily identifiable references are the quarter cylinders on each side of the façade of the courtyard of the Imperiale Nuova, the Della Rovere villa near Pesaro designed by Girolamo Genga.<sup>3</sup> They contained within them the curved ending afforded to the straight stairs connecting the two storeys, while in Tomar, on a slightly larger scale, the cylinder houses an entire spiral staircase. Francisco de Hollanda had reproduced the Italian example in a famous drawing from his desenhos das antigualhas dating from his trip to Italy, with an enforced stop in Pesaro, in 1538-41. The manuscript – now housed in the El Escorial Library – was published by Tormo (Tormo, 1940). Battelli dedicated his first study – published in a literary review, Byblos, and based upon these unstable foundations - to the presumed influence of Andrea Sansovino on early sixteenth-century Portuguese art: i.e. he tried to arbitrarily give consistency to Vasari's confused history. He did not hesitate to attribute to Terzi the construction of the entire Claustro dos Felipes (Battelli, 1928). According to a passage in a famous contemporary report contained in Isidro Velazquez's book (Velazquez, 1583), Terzi had supervised the cloister's provisional completion in wood on the occasion of the oath of allegiance taken by the *Cortes* in recognition of the new king Filipe II, and, according to a contract published by Sousa Viterbo, was responsible for the completion of the building in accordance with the already existing parts. The documents, which have been examined with care in more recent times, reveal many contradictions and may attributed Terzi with a more significant role. It was nationalism, as Kubler (Kubler, 1972) and Pires Coelho (Pires, Coelho 1987) were to say half a century later, that, in 1931, encouraged Vieira Guimarães to exalt the role of the Castilian Diogo de Torralva, and it was an even greater display of nationalism that earned the use of the adjective "pernicious" to describe Battelli's two Florentine brochures (Battelli, 1935), in which Terzi's work was reduced to the design of the upper storey of the *Claustro dos Felipes*. Nevertheless, it proved easy for Garcez Texeira to emphasise Battelli's contradictions with barely concealed sarcasm.

Battelli was, however, to reiterate all of his theses in the article that he devoted to Terzi in the Treccani encyclopaedia (1937), recalling not only the "volume" that he had dedicated to Andrea Sansovino (Battelli, 1936), but also repeating what had been written in the prestigious review *L'Arte*, founded by Adolfo Venturi. This was enough to incite Giuseppe Fiocco's lively (and just

<sup>&</sup>lt;sup>3</sup> On this subject, see Pinelli and Rossi (1971) and the more synthetic work of Miotto (2011).

as precariously grounded) objections in its competitor, the Rivista d'Arte.<sup>4</sup> Claiming for himself a monopoly in the understanding of Venetian Art, as a professor of Art History in Padua, he became angry as a result of Battelli's faithfulness "to the teachings of Palladio and Sansovino" and the "strong Palladian imprint" that Battelli attributed to the cloister of Tomar. Instead, Fiocco suggested a "peruzzesca" and "serliana" ascendancy, which he found even in the palace of Carlos V in Granada, designed by Pedro Machuca, whom he compared – albeit fleetingly – with Diego de Torralva. With better grounded arguments, he focused on a date, 1562 (quoting Emile Bertaux, but without mentioning him) written on one of the vaults of the upper gallery, "a groin vault, where the Gothic style has clearly survived". But his attention to the structure was merely formal in nature and his competency on architecture faded completely after just a few words: the poor Guarini "... takes from Mudejar Spain... its domes made from ribs linked together (in Italian *nervature conteste* - sic)". Fiocco, more outspoken than Battelli, demonstrated the habit of the art history of his time of looking at a building just as you would look at a painting, and refused to understand the specificity of the architecture. In these same years, Gustavo Giovannoni aimed this very rebuke at Adolfo Venturi, criticising the excesses, but not the limits, of the neo-idealist vision that was to impact heavily on the quality both of the history of architecture and of the practice of restoration in Italy.

In this far from brilliant competition, Emilio Lavagnino – in the volume that he devoted to "Italian Artists in Portugal", part of the famous series on the "Works of the Italian Genius Abroad", funded by the Ministry of National Education – questioned many of the ideas put forward by Battelli. The editorial staff of *L'Arte* kept their distance and Battelli's answer to Fiocco only came in 1941 in the pages of the *Bollettino del Genio Militare* (Military Engineering Bulletin), thanks to the relationship that he had established with General Leone Andrea Maggiorotti<sup>5</sup>, the author of the book dedicated to the "Architetti Militari in Spagna e Portogallo" (Military Architects in Spain and Portugal), which was included in the same series as the volume by Lavagnino. When analysing the work of Filippo Terzi, Maggiorotti faithfully returned to Battelli's arguments and reused his photographs. What was, however, new was the great wealth of illustrations, appropriate to the official character of the publication, which included plans and simplified reproductions of ancient engravings, but did not, however, provide any specific references.

Relations with Portugal were important for the politics of certain currents of Fascism: in 1940, the Italian Royal Academy devoted a volume to the "Historical Relations between Italy and Portugal", which opened with a *Saluto alla Nazione Lusitana* (Greetings to the Portuguese Nation) by Luigi Federzoni and ended with an essay by Giuseppe Bottai on "Corporatism in Italy and Portugal", i.e. cementing an alliance between the more moderate wing of Fascism and that which was more open to the various intellectual offshoots. It was no coincidence that authoritative ecclesiastics, such as Pietro Tacchi Venturi "*della Compagnia di Gesù*", or aspiring young officials at the Ministry of National Education, such as Cesare Brandi, were included among the authors. The question of architecture – this was merely a matter of prestige, not to say academic power – was dealt with by Fiocco, who repeated his theses, in an exaggeratedly syncretic and literary fashion.<sup>6</sup> Battelli's theses were entrusted to General Maggiorotti, who had been won over to the cause, and Battelli limited himself to writing on a Florentine subject (Battelli, 1940). Around this same time, the old dilettante completed his survey of the Portuguese Cinquecento with two essays on Francesco de Hollanda.

Battelli's greatest merit – perhaps stimulated by the criticism he received in Portugal, for it is an ill wind that blows nobody any good – was to start a systematic collection of Italian documents on Terzi, whose place of origin Battelli was able to sense: the architect had been listed as coming from either Bergamo or Verona, according to all the literature on his Portuguese work, from the early nineteenth century until Battelli's article in 1929. The new documents looked more closely

<sup>&</sup>lt;sup>4</sup> These publications were respectively a 36-page booklet (Battelli, 1936) and two critical articles (Battelli, 1938) and (Fiocco, 1938).

<sup>&</sup>lt;sup>5</sup> Maggiorotti died on 4 February, 1940, as is borne out by the notes in his article (*Reale Accademia*, 1940, p. 432).

<sup>&</sup>lt;sup>6</sup> L'influenza del Rinascimento e del Barocco italiani nell'arte portoghese (The Influence of the Italian Renaissance and Baroque on Portuguese Art) in *Reale Accademia* (1940, pp. 173-186).

at Terzi's move to Portugal, in 1576, which was later established more precisely as taking place at the end of that year (Dos Santos, 1951). In his 1929 article, Battelli had accepted the date of 1572, which had been proposed by the Portuguese texts written in the early nineteenth century.

The impressive collection of manuscripts gathered together by Annibale degli Abati Olivieri, and left to the Biblioteca Oliveriana in Pesaro, stands as one of the most significant monuments to the aristocratic erudition that by the early eighteenth century had become a "duty of their own rank and status" for the fading Italian patriciates, who had the ability to, more or less consciously, coordinate the "Republic of Letters" far beyond the limits of the city walls, and to involve clergymen, professionals, landowners, technicians and artists in their work. They helped to develop the very soul of the great age of the Italian eighteenth century, turning their attention to the study of the national heritage with an attitude of scientific rigour and seeing this as a valuable asset that could be invested with intelligence and prudence in order to build the future. Taking advantage of a bibliography that was being compiled at that time (Viterbo, 1923-33). Battelli discovered the first documented biography of Terzi<sup>7</sup> in the "Abecedario" by Domenico Bonamini, an other patrician from Pesaro, who, at the end of the eighteenth century, had focused his attention on the architectural and artistic heritage and who had produced his work again through a rigorous examination of the written sources. There were, therefore, a great number of letters written by Terzi himself, published in the nineteenth century<sup>8</sup>, as well as a biography to which little has since been added, and which was based in turn on the "Abecedario" compiled by Bonamini in accordance with the codes of the Biblioteca Oliveriana, and confirmed by the "Opere" by Gian Andrea Lazzarini. concerning the paintings in the churches of Pesaro (1806)

Other letters – these were truly new materials – were conserved in the archive of the Dukes of Urbino, at the Florence State Archives: this legacy had come to the Medici, their allodial heirs, through the last member of the Della Rovere family, Victoria, the wife of Ferdinando II of Tuscany. For the most part, they were sent from Portugal to correspondents in Urbino, including the same Duke, Francesco Maria II della Rovere, whose cause Terzi had always supported. At the time, these letters were considered to be both an important historical and a literary testimony. Once again, Battelli profited from the systematic work of a German art historian, Georg Gronau, who had settled in Florence and, in 1936, published a collection of documents from the systematic examination of that archive, based on many years of work (Gronau, 1938).

# **3.** A SLOW CHANGE OF PERSPECTIVE: FROM TERZI'S WORKS TO HIS ROLE AND ACTIVITY.

In drawing attention to Terzi's activities in the Duchies of Pesaro and Urbino, Battelli sensed that he had discovered a vital key to understanding not only the favour that had been granted to the architect by Filipe II and his good fortune in obtaining the position that he did, but also the important role that he played in Portugal, although Battelli did not develop this theme in any detail, Terzi was clearly a participant (in terms that still remain to be determined with greater precision) in a technical-scientific culture that was promoted as part of the overall ducal policy. It was the world of empiricism and experiment, the world of clockmakers, such as Terzi's father, and of the manufacturers of precision instruments or automata, all of whom made their contribution to the foundation of the new science, together with the re-reading (and rewriting) of ancient science. Studies produced in the last twenty years have clearly revealed the links between the atmosphere that prevailed at that time in Urbino and Pesaro and Galileo's first steps in the development of his mechanics, personally supported by Guidobaldo del Monte (see, in particular, Gamba, 1988; Gamba, 2001; Becchi, Bertoloni and Gamba, 2013). On the other hand, applied mechanics and the machines themselves were *instrumenta regni*, not just bizarre toys developed

<sup>&</sup>lt;sup>7</sup> Bonamini (1996, pp. 83-85).

<sup>&</sup>lt;sup>8</sup> In *Nozze Massarini Ballarini. Lettere inedite del Cavaliere Filippo Terzi*, Pesaro, Gualtiero Federici, 23 gennaio 1881 (from manuscripts Nos. 422 and 426, and from c. XIII of the Biblioteca Oliveriana).

for the entertainment of Carlo V and Filipe II, as other studies, i.e. those on Juanelo Turriano, have shown. Juanelo's great nephew, Leonardo Turriano (Zanetti, 2015, pp. 141, 156, 184; Camara, Moreira and Viganò, 2013), succeeded Terzi as Chief Engineer (Sousa Viterbo, 1922, pp.145-149), and this coincidence helped to clarify the fundamental skills that were required for running state building sites, a task that could also include the construction of royal residences and monuments confirming the dynasty's great religious piety. The training of a limited number of more highly-skilled technical staff<sup>9</sup>, which has been included among the tasks performed by Terzi ever since Sousa Viterbo's study (Sousa Viterbo, 1922, pp. 96-97), was clearly a major part of this role. The coordination of numerous works, both civil constructions and fortifications, required that the heads of individual building sites should conduct this training activity. The neoidealist idea of an architect - vaguely expressed by Battelli - as an "artistic personality" who achieved his own undeniable individuality through the "work of art" that he created, was far removed from the historical setting of those times and did not form part of the organisation of sixteenth-century building sites. Attention has been paid solely to institutional roles (Soromenho, 1995, vol. II, pp. 396-401; Soromenho, 1997) and the actual work undertaken by technicians in those times (Moreira and Soromenho, 1999, pp. 115-118; Ruão, 2006, pp. 98-128). These studies enable us not only to reassess the attributions of works that were largely based on unstable foundations, but also to reconsider both the meaning of those catalogues, and the evolution of the aims and methods of research on fortifications, hydraulic works, and buildings that were produced outside Lisbon and, in particular, in Coimbra (Craveiro, 2002)<sup>10</sup>. This substantial revision has been taking place very slowly since the 1950s. George Kubler's extensive synthesis (both in terms of space – Spain and Portugal – and time – from the sixteenth to the nineteenth century), in the volume that he wrote for the Pelican History of Art, was based on the most recent general histories of Portuguese art,<sup>11</sup> and, to a much lesser extent, on more specific studies. It is strange how the text describing the solution adopted for the corners of the Tomar cloister presents the quarter cylinder as an anticipation of the late Baroque style, while the footnote more correctly mentions the Francisco de Hollanda drawing that illustrated the well-known source of this design, the Imperiale Nuova (Kubler, 1959, pp. 103, 14). In the same year of 1959 (even though the essay was only published in 1965), Giulio Bresciani Alvarez returned to the theses of his master, Giuseppe Fiocco, and added, from a documentary point of view, a review of manuscripts at the Biblioteca Oliveriana, although the only real addition is Zacconi's "Memorie di Pesaro" – from the early seventeenth century - and its rough indications. The mention of Terzi in the manuscript treatise on military architecture by Gian Giacomo Leonardi, ambassador to Venice for Duke Guidubaldo II (Bresciani Alvarez, 1965, p. 371, n. 9) had already been highlighted in the 1930s by Luigi Serra, the superintendent of the Gallerie delle Marche, who had so actively helped to spread awareness of the cultural heritage of the region.<sup>12</sup> Albeit without any archival evidence, in 1978, Rimondini's brief notes extended the catalogue of Terzi's Italian works and, with some subsequent confusion, presented the doubts about the works attributed to him in Portugal, especially Sao Vicente de Fora. Two years earlier, the architect Jorge Segurado (Segurado, 1976), who remained faithful to the old canons of art history, had attributed to Juan de Herrera the first

<sup>&</sup>lt;sup>9</sup> For a detailed view of this training, until midway through the seventeenth century, see Ruão (2006, pp. 193-218).

<sup>&</sup>lt;sup>10</sup> The authors are most grateful to Salazar Ribeiro, who made available to them the annotated bibliography on Terzi's work that he had prepared for his dissertation. As has already been noted, over the past two or three decades, there has been a remarkable increase in the number of studies on Terzi's activity in Portugal and on sixteenth-century architecture in Portugal in general, many of which are of a very high level. The limited scope of this article and the clear choice not to discuss the attributions of buildings, or events taking place at the building sites, already investigated in depth by Portuguese scholars, leads us to mention just those texts that seem to us (perhaps wrongly) to be most directly relevant to the arguments that have been put forward. The reader will still be able to reconstruct an overall picture through the bibliography of numerous scholars, including, among others, Jorge Segurado, J.H. Pais da Silva, J.E. Horta Correia, Vítor Serrão, Rafael Moreira, Paulo Pereira, Maria João Pires Coelho, Maria de Lurdes Craveiro, Miguel Soromenho, Paulo Varela Gomes, Giuseppina Raggi, Nunziatella Alessandrini and Carlos Ruão.

<sup>&</sup>lt;sup>11</sup> In particular, the *Historia da Arte em Portugal* (Porto: la Portucalense, 1942-1953) with contributions by Reynaldo dos Santos and Mario Tavares Chicò.

<sup>&</sup>lt;sup>12</sup> Serra had a broad view of cultural heritage, in which he included the decorative arts, as shown by his collaboration with *L'Arte Italiana Decorativa e Industriale* in the first decade of the twentieth century (Serra Crispolti, 2006).

design of the monumental church, relying for this purpose on documents and drawings (incomplete and inconclusive, as often happens), as well as on formal analogies. He gave little importance to the long duration of the building works (the consecration of the church in 1629 did not necessarily coincide with the completion of the building) and was silent on the question of the repairs made after the 1755 earthquake, which determined its current appearance. The construction of the large coffered barrel vault of the nave and its connection to the masonry terrace above is only illustrated in the photograph, but it is not studied at all. The first order of the façade, framing the entrance porch, is reminiscent of El Escorial, and it is certainly strange that the large barrel vault has a span of eighteen metres, which is very similar to the one at Sant'Andrea in Mantua, more than the walls of the nave and the way in which they are joined together. However, the circulation of models was based on the dissemination not only of printed texts, but also of manuscripts, and this was a very complex process, as suggested for Portugal in the stimulating essay by Susana Matos Abreu (Abreu, 2013). Frase cancellata, Each building may be just the description of a lost antigraph, constructed or even just drawn. Even the tools of philology cannot be mechanically transferred from the literature on architecture, since they apply in a pertinent way, to the building itself, which maintains its irreducible specificity. The catalogue of Terzi's Italian works was further increased in the book dedicated in 1985 to the Ducal Palace in Urbino, a building which Terzi expanded, producing the rooms of the second floor known by the name of "Terze Logge", a series of works in which Giulio Thiene also participated, attracting the critical notes by Bernardino Baldi. The essay by Sikorsky (Sikorsky, 1985) gives special privilege to the formal aspects and pays greater attention to the stuccoes by Brandani, but the accurate metric survey published at the time and a careful survey of the minute transformations that were then introduced provides the most detailed information available on a work by Terzi, although the construction details are not investigated in great depth. In 2001 and 2002 respectively (although the studies in this latter case date back to 1999), Darius Sikorsky and Gianni Volpe rearranged all the information gleaned in the previous bibliography, from local histories (both printed texts and manuscripts) and monographs on individual buildings, such as the Palazzo Ducale di Pesaro, and these syntheses can be integrated by other studies, such as those of Sabine Eiche, on the cultural policy firstly of the Sforza from Pesaro, and then of the Della Rovere. The subsequent studies on the village of Barchi also add a few more details to this summary (De Marchi, 2004 and 2012). The purpose of identifying particular signs of the authorship of a particular architect comes up against the changes caused by use and the modest nature of the construction. If the catalogue of Terzi's work has increased since 1978, and if, as in the case of Villa Miralfiore, this points to the work of an architect who consistently developed the experimentalism of Girolamo and Bartolomeo Genga, then Terzi's effective participation in the Italian works remains no less unclear than it does in the case of his Portuguese works.

### 4. A PROBLEMATIC ATTRIBUTION

A purchase made by the *Biblioteca Nacional de Portugal* in the German antique market in 1989 has finally opened up a new avenue of interpretation. The respective manuscript (No. 12956 in the *Seção de Reservados*) has since been examined and discussed by Portuguese researchers.<sup>13</sup> A careful study of the paper, its watermarks, handwriting and binding is so far lacking, as well as of the family coat of arms engraved on the final page beneath the last sentence of the text and above the title on the title page. This bears the number 83, but it is preceded by a sort of flyleaf with the number 77, which reveals the lack of five pages in the sequence. The title in capital letters, "FILIPPO TERZI ARCHITETTO E INGEGNERE MILITARE IN PORTOGALLO. 1578" (Filippo Terzi – Architect and Military Engineer in Portugal – 1578) curiously coincides with the

<sup>&</sup>lt;sup>13</sup> In general, the possibility of its having been written by Terzi has not been excluded (e.g. Moreira and Soromenho, 1999, p. 116; Ruão, 2006, pp. 258-264; Tavares da Conceição, 2008, pp. 391-401; *idem*, 2010, with a previous bibliography). Alessandrini and De Cavi (2014, p.62, n.51) mention the attribution of the manuscript to the Servite Friar Giovanni Vincenzo Casale by Lanzarini in 2000. However, Orietta Lanzarini correctly refers to the B16-49 code of the National Library of Spain.

one chosen by Battelli for his 1929 article. The manuscript is a fragment of a much larger one, as suggested by the numbering of the pages. The number is always placed at the top right of each sheet, written in ink, in the same handwriting as the text. The sequence runs from No. 83 to No. 104, but it is not continuous. This numbering is flanked by a parallel continuous numbering, although these latter numbers are inserted with much less regularity, running from 1 to 16, but in another handwriting. On sheet 89, there are two drawings of cannons, the second also indicating the trajectory of the cannonball, in a different handwriting and with a different coloured ink. Sheet No. 3 (p. 85) is dedicated to Embadometria o misura delle superfici (the measurement of surfaces); sheets Nos. 4 and 5 (pp. 86-87) to stereometria o misura dei corpi solidi (the measurement of solid bodies), as is repeated by the titles written at the top on each page. The sheets dedicated to the measurements, literally repeat in their titles, but not in their drawings, the two treatises by Ferdinando Bibiena, respectively the quarto and the octavo editions. In the following pages (from Sheet No. 6 to Sheet No. 9), the synthetic representation of the architectural orders in the measurements refers directly, but only partially, to the "Regola" (Rule) of Vignola. The sheets from Sheet No. 11 to the first half of Sheet No. 16, again have the treatises by Ferdinando Bibiena as their main source. In particular, the illustration piedestallo e base dell'ordine composito (pedestal and base of the composite order) in Bibiena (1711, after p. 65) is identical to the one in Manuscript No. 12956 of the Biblioteca Nacional de Portugal, drawn on Page No. "100", or Sheet No. 14, and the mention of the "Ionic Capital of Michelangelo Buonarroti in the Capitol" (Sheet No. 11, unnumbered page) can be read under the same design, the fourth plate after p. 60 of Bibiena's Treatise, which in this case repeats some editions of the Regola and repeatedly mentions Vignola. The similarities (almost identical copies) are no less marked with the "Directions ..." of 1725, conceived for teaching at the Accademia Clementina in Bologna. The 1711 designs are replicated in less accurate engravings and distributed by adapting them in a different format. It is sufficient here to mention just Table No. 67 and the cornice drawn on the first half of Sheet No. 16 (Page No. 104) or Plate No. 66 and Sheet No. 15. The author of the manuscript had probably worked on both the books. The last three pages contain practical indications about the size of an altar and of the stalls in a horse stable. The use of the Bolognese foot as the unit of measurement would seem to confirm the geographical origin of the manuscript, the milieu in which these notes (which were, perhaps, in part exercises undertaken while attending an academic course) were prepared. Similar descripti derived from famous printed treatises were commonly found and not only show a possibility of reproducing books, but also demonstrate the actual training process. In this case, the references are broader in their scope. Because there was a prevalence of copies of Bibiena's treatises, this evidence affords the manuscript a broad terminus post quem. Editions of Bibiena's "Directions", even after the many Bolognese reprints, were still being published in Venice by Giuseppe Orlandelli, in 1796, at the height of the neoclassical period. A cultivated gentleman, such as Gomes Freyre de Andrade, would therefore naturally demonstrate some interest in a similar text. He placed his signature and the date, Paris, 26 September, 1814, at the top left of the front page, numbered 77, which is something that is normally done in the case of a gift or a purchase. Even more than the fact that the Bolognese foot is used as the unit of measurement, the mention of the city (Paris) makes it quite unlikely that the manuscript is of Portuguese origin, which the quotes from Ferdinando Bibiena might suggest. We might, for example, think about his favourite student, Giuseppe Antonio Landi, who settled in Belém, or about his nephew, Gian Carlo Sicinio, the son of Francesco, who built the Royal Theatre in Lisbon, which was destroyed in the earthquake of 1755. Still on the first page, but lower down, Antonio de Sousa Falcão wrote that he had received the manuscript in Lisbon, on 26 January, 1834, as a gift from Manuel de Faria e Mello, in memory of Gomes Freire, the comradein-arms of Mello and the cousin of Falcão. It remains to be determined how old the title and the drawings of the guns are and why they have been included in this involuntary testimony to the personal relationships among the aristocracy during a tumultuous period in Portuguese history between the Napoleonic era and the first liberal governments.

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Biblioteca Nacional de Portugal, Seção de Reservados, Manuscript purl 12956 p. 10 e 14.



Haupt 1888, Plates not numbered, The Church of S. Antao in Lisboa, attributed to Filippo Terzi.

### 5. NEW THEMES AND NEW RESEARCH AVENUES

The case of Terzi is a suitable one for illustrating the limits of a model of architectural history. Once all of the most continuous and direct documentary sources have been exhausted, notarial deeds and institutional events have to be quantitatively researched, making it impossible to focus on a single figure and entering into conflict with the aim of reconstructing his or her specificity within a reasonable time.

Moreover, these difficulties in deciding on the attribution of a work, these uncertainties in identifying a precise contribution to individual buildings, are all the more pertinent if a shared culture is disseminated, in which multiple experiments converge, as in the small court of Pesaro and Urbino: here the glorious legacy of the fifteenth century became almost an element of its identity, to consolidate working in compliance with. Mannerist experiments, beginning with Girolamo Genga, led to the creation of a common culture, from Rome to Florence, as well as in many North Italian centres, which was enhanced through political and commercial ties, and the circulation of both people and books. In the second half of the century, in the Habsburg Europe that had stabilised after the Peace of Augsburg, this heritage and these collective developments spread over a vast geographical area, taking on an international dimension (we might say today, somewhat belying the nationalist concepts of the nineteenth and twentieth century), centred around the policy of Filipe II. As always happens when the consensus is so vast and long-lasting, this was also, and perhaps above all, a cultural policy, made up of shared values and common languages among the social and technical elites, also spreading into systems of economic trade in goods, as well as affecting people and their skills. In later years, especially in the field of construction, this network of relationships became even more evident. These large-scale interchanges did, however, come up against one incontrovertible fact, namely the fixed nature of buildings and the sheer weight of the materials used, although the latter also migrated over quite remarkable distances (as, for example, the Carrara marble that reached as far as Spain). "Global" models thus necessarily have to be confronted with the resources that were available at the different sites. In this sense, we need to reinterpret the work of Filippo Terzi and more generally of the architects of his time: the vocabulary that they shared has to be seen in the light of their construction practices. Francisco de Hollanda himself unwittingly revealed this problem: he had identified brick construction as one of the fundamental features of Italian fortifications, which he sought to transfer to Portugal, along with most of their design, in order to achieve the same results (Porras Gil, 2002, p. 168).

Thus, Terzi and Northern Italian architects, who were accustomed to considering brick masonry and vaults as the best form of construction, had to rethink their designs and their role at the building site when they were forced to work with stone, and in particular to use stereotomy as the most sophisticated kind of construction .

From the beginning of the sixteenth century onwards, the trend in brick constructions was towards a gradual decrease in the use of scaffolding for the building of vaults: they were shared in individual parts that could be build separately, as was also the case in the late Gothic experiments. How different, for example, were the links between coffered vaults (a widespread feature in this period) and arches, longitudinal lintels and recesses, when they were built of stone and when they were built of brick? And what was the case when both materials were used, or when there was also a partial use of concrete? The remnants of the vault of the Chapter with its stone ribs and its recessed brick panels, which are still visible in Tomar and have been attributed to João de Castilho, suggest that there is a need to continue this line of research. According to Genin and Palacios (Genin and Palacios, 2007, pp. 395-396; fig. 10), at the same Convento do Cristo, the coffered vault of the refectory "présente un mode de construction gothique". The study of the evolution of these coffered vaults, from the presbytery at the Mosteiro dos Jeronimos to the Mosteiro de São Vicente de Fora and other churches rightly or wrongly attributed to Terzi, may well provide a rich seam of research for acquiring new knowledge, if we look closely at the differences in their construction, rather than search for their similarities. We must start with the current state of the building and gradually subtract the additions and the changes that have been introduced over time, and then distinguish between what actually remained from one particular building phase and what were the alterations that were made. The history of architectural literature and the histories of the architects themselves coexist with the history of the buildings, i.e. with their use and their changes over time. We need to undertake an intelligent revision of the different specialisations that were made among the scholars according to the traditional epochs of the architectural or art historiography. To reconstruct the state of a building in a given historical period, we need at least to know how to read documents, to understand the mentality and the practices of distant eras, which were all quite different from one another. The history of the buildings themselves can provide us with new references and new and different tools for this purpose.

### **BIBLIOGRAPHICAL REFERENCES**

Abreu, Susana Matos. 2013. Tratados de arquitectura em bibliotecas, museus e arquivos portugueses (séculos XV-XVIII): relevância desta herança bibliográfica na investigação do património arquitectónico. Arquivos, bibliotecas e museus: Realidades de Portugal e Brasil. Zeny Duarte (ed.) Salvador. Edufba.

Alessandrini, Nunziatella, de Cavi Sabina. 2014. "A Antiga Igreja de Nossa Senhora do Loreto da Nação Italiana em Lisboa (1518-1651)". *Revista de História de Arte*, 11: 53-63.

Apa, Livia. 1993. "Guido Battelli e la cultura portoghese". *AISPI - L'apporto italiano alla tradizione degli studi ispanici*. Napoli, 31.1-1.2, 1992: 171-176.

Battelli, Guido. 1940. "L'abate don Gomes Ferreira da Silva e i Portoghesi a Firenze nella prima metà del Quattrocento". In *Relazioni storiche fra l'Italia e il Portogallo*. Roma: R. Accademia: 149-163.

Battelli, Guido. 1929. "Filippo Terzi: architetto ed ingegnere italiano in Portogallo". Biblos 7-8, vol. V.

Battelli, Guido. 1935. *Filippo Terzi, architetto militare in Portogallo*. Istituto di Cultura del Genio Militare. Roma.

Battelli, Guido and Trinidade Coelho, Henrique. 1935. Filippo Terzi architetto e ingegnere militare in Portogallo (1577 - 1597): documenti inediti dell'Archivio di Stato di Firenze e della Biblioteca Oliveriana di Pesaro. Firenze: Alfani & Venturi.

Battelli, Guido. 1936. Andrea Sansovino e l'arte italiana della Rinascenza in Portogallo con 24 riproduzioni di fotografie inedite. Firenze: Seeber.

Battelli, Guido. 1938. "L'architettura del Rinascimento in Portogallo". L'Arte, vol. IX: 238-254.

Battelli, Guido. 1940. "Terzi o Torralva? A proposito del chiostro grande nel monastero dei Cavalieri di Cristo a Tomar (Portogallo)". *Bollettino dell'istituto storico e di cultura dell'arma del Genio*, 12: 2-9.

Battelli, Guido. 1942. "L'albo dei disegni di Francisco d'Ollanda". Bollettino dell'Istituto Storico e di Cultura dell'Arma del Genio, 14, 12; 8.

Battelli, Guido. 1942. "Origini italiane del Rinascimento portoghese". L'Arte, 45: 140-147.

Becchi, Antonio; Bertoloni Meli, Domenico and Gamba, Enrico (eds.). 2013. *Guidubaldo del Monte 1545-1607*) Theory and Practice of the mathematical disciplines from Urbino to Europe. Berlin.

Bertaux, Emile. 1911. "La Renaissance en Espagne et Portugal". In *Histoire de l'art depuis les premiers temps chrétiens jusqu'à nos jours*, Michel André (ed.), tome IV: 817-989. Paris: Armand Colin.

Bertaux, Emile. 1913. "La fin de la Renaissance en Espagne". In *Histoire de l'art depuis les premiers temps chrétiens jusqu'à nos jours*, Michel André (ed.), tome V: 793-844. Paris: Armand Colin.

Bertaux, Emile. 1916 "Aperçus historiques sur les «Arts en Espagne» et «en Portugal»". In *Espagne et Portugal. (les Guides Joanne)*. Paris: Hachette.

Bonamini, Domenico.1783-1791. "Abecedario degli architetti e dei pittori pesaresi". In *Pesaro Città e contà*, 6. Giovanna Patrignani (ed.).

Bresciani Alvarez, Giulio. 1965. "Un architetto pesarese in Portogallo: Filippo Terzi (1520-1597)". In Atti dell'XI Congresso di Storia dell'Architettura. Roma: Centro Studi Storia dell'Architettura: 355-374.

Camara Alicia, Moreira Rafael and Viganó, Marino. 2010. *Leonardo Turriano: ingeniero del rey*. Madrid: Fundación Juanelo Turriano.

Coelho, Maria João Pires. 1987. A Igreja da Conceição e o Convento de Cristo de Tomar. Influências do Renascimento Italiano na Arquitectura Portuguesa do Séc. XVI. Santarém: Assembleia Distrital.

Craveiro, Maria de Lurdes dos Anjos. 2002. O Renascimento em Coimbra – Modelos e Programas Arquitectónicos. PhD Thesis. FLUC: Coimbra.

De Santi, Marco. 2010. "L'architetto Filippo Terzi a Barchi". Castella Marchiae, 10-11: 130-155.

De Santi, Marco. 2004. "Il vicariato di Barchi e la piccola "città ideale" disegnata da Filippo Terzi". In *Pesaro Città e contà*, 19: 49-62.

Dos Santos, Reynaldo. 1951. "A vinda de Filipe Tércio para Portugal". Belas Artes, 3: 43-44.

Fiocco, Giuseppe. 1938. "Il Chiostro Grande nel Convento di Cristo a Tomar e l'opera di Filippo Terzi". *Rivista d'Arte*, 20: 355-363.

Gamba, Enrico and Montebelli Vico. 1988. Le scienze a Urbino nel tardo Rinascimento. Urbino: Quattroventi.

Gamba, Enrico. 2001. "Le scienze fisiche e matematiche dal Quattrocento al Seicento". In *Pesaro nell'età dei Della Rovere*, vol. II: 247-306. Venezia: Marsilio.

Genin, Soraya and Palacios José Carlos. 2007. "Les voûtes de João de Castilho au Portugal". In *Actas del Quinto Congreso Nacional de Historia de la Construcción*, Burgos, 7-9 junio 2007, M. Arenillas, C. Segura, F. Bueno and S. Huerta (eds.): 399-400.

Gronau, Giorgio. 1936. "Documenti artistici urbinati". Fonti della storia dell'arte, a. I. Firenze: Sansoni.

Gronau, Hans Dieter. 1938. Georg Gronau: 15.2.1868-26.12.1937; Verzeichnis seiner Schriften. San Domenico di Fiesole.

Haupt, Karl Albrecht. 1888. Auswahl von Illustrationen zur Geschichte der Renaissance in Portugal. Hannover: Jänecke.

Haupt, Karl Albrecht. 1890-95. Die Baukunst der Renaissance in Portugal von den Zeiten Emmanuel's des Glücklichen bis zu dem Schlusse der spanischen Herrschaft. Frankfurt au Mein: Keller (transl. Portuguese: A arquitetura da Renascença em Portugal. Lisboa: J. Rodriguez. 1910.

Kubler, George. 1972. Portuguese plain architecture between spices and diamonds, 1521-1706. Middletown: Wesleyan University Press.

Lanzarini, Orietta. 1998. "Il codice cinquecentesco di Giovanni Vincenzo Casale e i suoi autori". *Annali di architettura*, 10/11. (2000): 183-202.

Lavagnino, Emilio. 1940. Gli artisti in Portogallo. Roma: Libreria dello Stato.

Lazzarini, Giovan Andrea. 1806. Opere del Canonico. Tomi I e II. Pesaro: Gavelli.

Lino, Raul. 1939. "Alberto Haupt". Boletim da Academia Nacional de Belas Artes, 5: 11-16.

Maggiorotti, Leone Andrea. 1939. L'opera del genio italiano all'estero. Gli architetti militari nella Spagna, nel Portogallo e nelle loro colonie, vol. III. Roma: La Libreria dello Stato.

Miotto, Luciana. 2008. Villa Imperiale di Pesaro: Girolamo Genga. Venezia: Marsilio.

Moreira, Rafael. 1992. "O engenheiro mor e a circulação das Formas no imperio portugues". In *Portugal et Flandres, Visoes de Europa 1550-1680*: 103-107. Lisboa: IPPC.

Moreira, Rafaél and Soromenho Manuel. 1999. "Engenheiros militares italianos em Portugal (séculos XV-XVI)". In *Architetti e Ingegneri Militari Italiani all'estero dal XV al XVIII secolo*, vol. 2, Marino Viganó (ed,) 109-131. Livorno: Sillabe.

Pinelli, Antonio and Rossi Orietta. 1971. Genga Architetto. Roma: Bulzoni.

Porras Gíl, Maria Concepción. 2002. "Francisco de Holanda; propuestas para la defensa de Portugal en el siglo XVI". In *População e Sociedade*. II Encuentro Internacional Relaciones Portugal España: 161-178.

Real Accademia d'Italia. 1940. *Relazioni storiche fra Italia e Portogallo. Memorie e documenti*. Roma: s.e. Reis, António Matos. 1987. *Filippo Terzi à Luz dos Documentos – A Fortaleza da Barra em Viana do Castelo*. Viana do Castelo. Barcelo: Comp. Editora do Minho.

Rimondini, Giovanni. 1978. "Nota critica sull'architetto Filippo Terzi". In *Francesco Saverio Fabri architetto*, by Giovanni Rimondini and Luigi Samoggia. Medicina: Comitato ricerche storiche medicinesi. Ruão, Carlos, 2006. *O Eupalinos Moderno. Teoria e Pratica da Arquitectura religiosa em Portugal 1550-1640*. PhD Thesis. FLUC: Coimbra.

Segurado, Jorge. 1976. Da obra filipina de São Vicente de Fora. Lisboa: Academia Nacional de Bellas Artes.

Serra Crispolti, Arianna. 2006. Luigi Serra: la vita, l'opera e scritti inediti su Corrado Giaquinto, Masaccio, Domenichino, Barocci. Urbino: Accademia Raffaello.

Sikorski, Dariusz J. 1985. "Il Palazzo Ducale di Urbino sotto Guidobaldo II (1538-1574): Bartolomeo Genga, Filippo Terzi e Federico Brandani". In *Il palazzo di Federico da Montefeltro, restauri e ricerche*, Maria Luisa Polichetti (ed.). Urbino, Quattroventi.

Sikorski, Dariusz J. 2001. "Brandani e il segreto dell'Età dell'Oro. Verso una ricostruzione della cronologia e decodificazione dei significati nel palazzo di Pesaro". In *Pesaro nell'età dei Della Rovere*, vol. II: 247-306. Venezia: Marsilio.

Soromenho, Miguel. 1995. "Do Escorial a São Vicente de Fora". Revista Monumentos, 2: 24-26.

Soromenho, Miguel. 1995-96. "Classissismo, italianismo e «estilo-chão». O ciclo Filipino". In *História da Arte Portuguesa, Do Renascimento ao Maneirismo (séculos XVI-XVII)*, vol. II: 377-401. Lisboa: Circulo de Leitores.

Soromenho, Miguel. 1997. "A Administração da Arquitectura o Provedor das Obras Reais em Portugal no século XVI e na metade do século XVII". *Anuario del Departemento de Historia y Teoria del Arte*, Universidad Autónoma de Madrid, IX-X (1997-98): 197-209.

Stille, Ulrich. 1969. "Haupt, Karl Albrecht". In Neue Deutsche Biographie, 8, s. 98 ff.

Tavares da Conceição, Margarida. 2008. *Da cidade e fortificação em textos portugueses (1540–1640)*. PhD Thesis. FLUC: Coimbra.

Tavares da Conceição, Margarida. 2010. "Learning Architecture: early modern apprenticeship in Portugal". Communication at 1st International Meeting EHAN, Guimarães, June 17-20, 2010.

Teixeira, Francisco Augusto Garcês. 1936. Filippo Terzi: um livro pernicioso. Lisboa: Imp. Moderna.

Tormo, Elias. 1940. *Os desenhos das antigualhas que vio Francisco d'Ollanda, pintor portugués*. Madrid: Ministerio de Asuntos Exteriores.

Vasconcellos, Joaquim de (ed.). 1918. Da pintura antigua. Tratado de Francisco de Hollanda. Porto: Renascença Portuguesa.

Velazquez, Isidro. 1583. La entrada que en el Reyno de Portugal hizo la S.C.R.M. de Don Philippe, Lisboa? por Manuel de Lyria, a costa de Symon Lopez.

Verrua, Pietro. 1937. "Sulle relazioni culturali tra Portogallo e Italia: 1. L'epistolario di Filippo Terzi; 2. Le epistole volgari e i carmi latini di D. Miguel de Sylva". *La Rassegna*, serie IV, a. XLV 5/6: 273-280.

Viterbo, Ettore (ed.) 1923 – 1933. *Pesaro. Biblioteca Oliveriana. Inventari dei manoscritti delle biblioteche d'Italia*, vols. 29, 33, 35, 37, 39, 42,45, 48, 52. Firenze: Olschki.

Volpe, Gianni. 2002. "Filippo Terzi, architetto delle fabbriche ducali". In *I Della Rovere nell'Italia delle corti*, B. Cleri, S. Eiche, J. E. Law and F. Paoli (eds.), vol. II: 79-103. Urbino: Quattroventi.

Watson, Walter Crum. 1907. Portuguese Architecture. London: Arthur Constable.

Zanetti, Cristiano. 2015. Juanelo Turriano de Cremona a la Corte. Formación e red social de un ingenio del Renacimiento. Madrid: Fundación Juanelo Turriano.