



Fundación Juanelo Turriano

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### **1. *Two engineers, one (controversial) kinship***

“Identifying Leonardo Torriani, an interesting figure in the history of the Canary Islands and a member of the noble De la Torre family, as a relative or even a protégé of Juanelo (when what that poor man needed was protection himself) is a mistake.”<sup>i</sup> That verdict, handed down a little over 30 years ago by José Antonio García-Diego, appeared to put a permanent end to the never fully verified contention that the two famous engineers, both “servants” of the Spanish House of Habsburg, were related.

One, Leonardo Turriano (Cremona ±1559 – Lisbon ±1628), was a reputed senior engineer in late sixteenth-century Portugal (under Spanish rule at the time); and the other, Juanelo Turriano (Cremona ±1500 – Toledo 1585), a renowned clock maker, astronomer and engineer to Charles V and Philip II in the Ducati of Milan and in Spain<sup>ii</sup>. Several Spanish authors, beginning with José Aparici y García, for whom Leonardo “was indisputably akin to the famous mechanic Juanelo Turriano” (1851)<sup>iii</sup>, have assumed their consanguinity. A full century later, Dominik Josef Wolfel, annotating Leonardo Turriano’s excellent *Descripción e historia del reino de las Islas Canarias* (description and history of the Canary Island Kingdom), noted in this regard:

[...] so benissimo che si potrebbe trovare di piu se si facessero in Italia ricerche su Gianello Torriani, il piu illustre parente, e forse il padre di Leonardo. [...] Forse io stesso o uno dei miei discepoli fara queste indagini; forse le fara un italiano bramoso di rintracciare le orme di Gianello e Leonardo Torriani. [...] Potrebbe darsi che egli sia stato il padre di Leonardo,

ma siccome non sappiamo quanti anni aveva quest'ultimo quando dimorava nelle Canarie, non possiamo dirlo con sicurezza. Nel capitolo 26 del manoscritto Leonardo menziona la canonizzazione di Fray Diego de San Nicolás fatta dal papa Sisto V due anni prima; nel cap. 41 dice che l'anno precedente era il 1595. Poi egli riferisce tutta una serie di eventi di cui fu testimone oculare o contemporaneo che conosciamo anche da altri autori, eventi di cui egli stesso o questi ultimi ci forniscono le date. Ne risulta che Leonardo dimorò nelle Canarie almeno negli anni 1582–1597 e che probabilmente verso la fine di questo periodo compose la sua “Descrittione” delle isole Canarie. Le illustrazioni, col loro testo talvolta molto abbondante e riprodotte quanto si dice nel racconto, sono indipendenti e forse hanno preceduto di molto tempo la composizione dell'opera stessa. Se Gianello è veramente il padre di Leonardo, questi non può essere nato a Cremona o altrove in Italia, ma probabilmente a Toledo, ove Gianello dimorò nel secondo periodo della sua vita. Purtroppo non potei fare ricerche nei registri di battesimo di Toledo ed ora le devastazioni dell'ultima guerra civile le avranno forse rese impossibili. In ogni modo è molto probabile che Leonardo sia stato almeno un parente di Gianello, nato a Cremona e venuto in Spagna per suo invito. Se si parla di Milano come luogo di nascita, ciò si deve al fatto che lo si crede appartenere all'antica e celebre famiglia dei Torriani<sup>iv</sup>.

That put the kinship issue back on the agenda. García Diego's assertion also aimed to refute a biographical note included by Antonio Rumeu de Armas in a history of naval attacks on the Canaries, which reads as follows.

“But the famous engineer from Cremona, Giovanni or Gianello Torriani or de la Torre, known in Spain as Juanelo Turriano, was almost certainly Leonardo's uncle. [...] Leonardo Torriani was in Germany in the service of Rudolph V of Habsburg when Philip II, faced with the problem of fortifying the recently annexed Kingdom of Portugal, called upon him to render his services in that faraway land. It hardly takes an oracle to presume that Juanelo Turriano may well have suggested to the king that his nephew should form part of the team of foreign engineers recruited for such a vital endeavour. Moreover, from the moment Torriani reached Portugal, he was invariably called Turriano, like Juanelo, instead of other more logical variations on his surname, such as Torriano. This would prove that from the outset he was believed to be related to Charles V's famous clock maker”<sup>v</sup>.

In similar pages and more or less qualified conclusions written by other biographers, Leonardo has recently been defined as “filho – embora natural, pois nao figura entre os

herdeiros – do célebre mecánico e relojoeiro de Carlos V, o cremones Juanelo Turriano” (son, albeit illegitimate, for he is not listed among the heirs, of Charles V’s famous Cremonese mechanic and clock maker, Juanelo Turriano (1988)<sup>vi</sup> and some time later as “natural de Cremona e filho natural de Juanelo Torriani” (born in Cremona, illegitimate son of Juanelo Torriani) (1999)<sup>vii</sup>. Three possibilities are open, then: a non-specific kinship between Juanelo and Leonardo, endorsed since the early nineteenth to the mid-twentieth century; the absence of any blood relationship; or, more recently, the existence of a very close father-son relationship.

Which comes closest to the truth? That question has no straightforward answer, because while quite a bit of literature has been written about Leonardo Turriano, his origins are unclear. Prospero Peragallo mentioned him as one of the Italians in Portugal (1904)<sup>viii</sup>, and references to the younger Turriano can also be found in Francisco Sousa Viterbo (1922)<sup>ix</sup> and Guido Battelli<sup>x</sup>. His manuscript on the Canary Islands was edited by Dominik Josef Wolfel<sup>xi</sup> and later by Alejandro Cioranescu (1959)<sup>xii</sup>. Moreover, Leonardo Turriano’s designs for defence structures in the Philippines were studied by María Lourdes Díaz-Trechuelo (1961)<sup>xiii</sup>. Rafael Moreira accepted his presumed filial relationship with Juanelo (1983)<sup>xiv</sup>. Fernando Gabriel Martín Rodríguez (1986)<sup>xv</sup> researched his cartographic and naturalist endeavours, while Lívio da Costa Guedes (1988)<sup>xvi</sup> and Carlos Pereira Callixto (1989)<sup>xvii</sup> and in Spain Fernando Checa (1989)<sup>xviii</sup> focused on his “master engineer” status. Fernando Jesús Bouza Álvarez mentioned his presumed kinship with Juanelo (1989)<sup>xix</sup>. Margarida de Magalhaes Ramalho published his designs for the defence of Cascais (1990)<sup>xx</sup>, Joao Rocha Pinto described his significance for the history of Madeira (1990)<sup>xxi</sup> and Alicia Cámara Muñoz analysed his design for navigation on the River Guadalete (1991)<sup>xxii</sup>.

Rafael Moreira published two speeches shortly thereafter. The first addressed the fortress at San Lorenzo de Cabeza Seca and the second the dredging of the mouth of the River Tagus (1992)<sup>xxiii</sup>. Leonardo’s impact on Spanish engineering was analysed by Diego Suárez Quevedo (1993)<sup>xxiv</sup>, while José María Pinto y de la Rosa (1996)<sup>xxv</sup> studied his cartographic *oeuvre* in the Canaries. Rafael Moreira<sup>xxvi</sup> and Alicia Cámara Muñoz (1998)<sup>xxvii</sup> summarised his opinions on navigation on the River Tagus, while his naturalist interests were addressed in the biographic-personal studies conducted by José Manuel Azevedo Silva (1999)<sup>xxviii</sup> and Alicia Cámara (2000)<sup>xxix</sup>.

Diego Suárez Quevedo (2004)<sup>xxx</sup> and David Buisseret (2005)<sup>xxxi</sup> revisited Leonardo Turriano's contribution to "Canary Island" cartography. Alicia Cámara focused on the importance of the long list of Philip III's engineers, an area less studied to date than Philip II's technicians (2006)<sup>xxxii</sup>. Diego Suárez Quevedo analysed Leonardo Turriano's *marginalia* in a text on Renaissance sculpture and painting (2006)<sup>xxxiii</sup> and his proposals for canals and fortresses on the Iberian Peninsula (2007)<sup>xxxiv</sup>; Salvenrico Massa returned to the subject of the Canary Island "album" (2007)<sup>xxxv</sup>; and Alicia Cámara published his designs for Castilian prisons in northern Africa (2008)<sup>xxxvi</sup>. According to some authors, Leonardo maintained relations with the family of the famous clock maker whose biography, in turn, also has gaps that merit study.

## **2. Historiography around Juanelo Turriano**

The following sketch of Juanelo is drawn with a view to clarifying the issue of his alleged father-son relationship with Leonardo. The narrative is necessarily brief, for reconstructing the life of the clock maker and mechanic known as Juanelo "Torriani" (in the Italian records, just Giannello or Leonello with no last name) is no easy task. Despite the research conducted in Italy where he was born and Spain where he emigrated, scant information can be gleaned from the sources. The vast literature (around seventy titles, including books, essays and articles) and the few letters that have been conserved must be supplemented with references by contemporary authors.

While the dates of his birth at Cremona, set back to 1500 by recent historiography<sup>xxxvii</sup> and his death at Toledo on 13 June 1585, according to a note by Esteban de Garibay y Qamalloa<sup>xxxviii</sup> have been established, very few of the events in his life during his Cremona – Milan period are fully documented. His actual surname and his father's identity have been found in official records. Two instruments issued by Cremonese notary public Giovanni Maria Ariberti, dated 23 June 1520, specifically a *Carta emptionis*<sup>xxxix</sup> and a *Carta locationis*<sup>xl</sup> confirmed the engineer's patronymic, as son of "Girardus de toresanis fq. Jannelli". He, consequently, was "Gianello". Another of the same notary public's instruments, dated 23 April 1523, recorded the donation of part of a property with a house to "girardo de Toresanis fq. Janelli"<sup>xli</sup>, while yet a fourth dated 13 May 1523 registered its sale by "ghirardo de torexanis fq. Janelli"<sup>xlii</sup>. According to three other of Ariberti's records, on 12 March 1524, "Girardus de toresanis fq. Janelli" owed the rent on a mill<sup>xliii</sup>; on 11 March 1529, "gherardus de Toresanis fq. Janelli" promised to pay a certain sum of money<sup>xliiv</sup>; and on 21 May 1529, "Girardus de Toresanis fq. Janelli" repaid his March

1524 debt<sup>xlv</sup>.

Juanelo, in turn, appears in two of Ariberti's records. On 14 March 1530, the notary recorded the establishment of a dowry for "d[omina] Antonia de Segiella fq. B[er]nardini", wife of "Janelli de toresanis filij separati gherardi"<sup>xlvi</sup> and of its receipt under the heading "Janellus de toresanis filius Separatus gherardi"<sup>xlvii</sup>. Two other instruments were recorded by Giovanni Pietro Allia. On 26 July 1536 "m[agiste].r Janellus de Toresanis orolog[iar]ius fq. gherardi" committed to taking an apprentice for two years<sup>xlviii</sup>; and on 10 April 1537 to suspend the apprenticeship for six months and recommence in October for the following nine months. The record shows that the apprentice "stayed and lived with the aforementioned Master Gianello"<sup>lix</sup>. The cathedral's *Libri Provisionum* contains four notes regarding work performed by Juanelo: payment of 15 imperial lire to "m[agist].ra Janello de toresanis" for "adjusting and rebuilding the clocks on the tower" in Cremona (6 July 1529)<sup>i</sup>; 22 pounds to the "s[upra]s[crip]to M[agist].ro Janello" paid "as a fee for the above craftwork" (25 February 1534)<sup>ii</sup>; 22 lire and 16 soldi to "s[upra]s[crip]ti Janelli" for "making the metal doors on the baptismal font in the baptistry" (4 April 1534)<sup>iii</sup>; and a sum of 40 soldi to "Janello de toresanis", the last notation, for "adjusting the clock" (22 September 1534)<sup>iiii</sup>.

Around 1539 he moved to Milan, where other pay orders are on record: on 1 April 1544 for "staying with His Majesty's army in Piedmont"<sup>liv</sup>; on 19 June 1545 for "an advance for the clock he was commissioned to build by His Majesty the Emperor"<sup>lv</sup>; on 12 August 1547 "as an advance for the clock he had been commissioned to build"<sup>lvi</sup>; on 11 February 1548 for "the gold to gild and the silver to make the clock"<sup>lvii</sup>; on 30 May 1548 for "making a clock for His Majesty the Emperor"<sup>lviii</sup>; on 11 October 1548 for "building a clock for His Majesty"<sup>lix</sup>. On 20 February 1549, Governor Ferrante Gonzaga wrote that he wanted "M[ae]st[er]o Giannello"<sup>lxi</sup> to repair a clock. On 20 January 1550 Juanelo was elected *abate del paratico*, i.e., head of the iron smiths' guild (*Fabbri Ferrai*), as deduced from a writ legalised by notary public Giovan Antonio Crivelli<sup>lxii</sup>; moreover, according to an instrument since lost, issued by Dionigi Allegranza on 23 May 1550<sup>lxiii</sup> with a copy, likewise misplaced, in the Trivulziana Library, "Magister Janellus de Torrianis" had a disciple in his Porta Nuova workshop "to learn the art of making army clocks and to work in the aforementioned Signore Gianello's shop"<sup>lxiv</sup>.

On 12 August 1550, an order was issued to pay him a suitable sum for a journey "to repair to Augusta with the clock that he had been commissioned to make for His Majesty the

Emperor”<sup>lxv</sup>, and another on 2 October 1550 to “return to Milan with the clock and finish it”<sup>lxvi</sup>. A lease for a house at Porta Romana, with a heading that reads: “Signore Gianello Torriani son of the late Gherardo in the parish of San Benedetto at Porta Nuova” was included in a deed issued by Giacomo Antonio Carcani on 10 November 1550<sup>lxvii</sup>, and on 13 February 1551 Carcani confirmed payment and the occupation of the new home by “by Signore Gianello Torriani son of the late Gherardo in the parish of San Nazzaro in Brolo at Porta Romana”<sup>lxviii</sup>. Two payments, on 22 November 1550 for completing His Majesty’s clock”<sup>lxix</sup> and on 20 May 1551 for delivering the clock to His Majesty”<sup>lxx</sup> preceded a document dated at Innsbruck on 7 March 1552 in which the emperor awarded him a yearly pension of 100 gold escudos, payable quarterly. That pension was confirmed by the Milan Senate and Charles V by a decree dated 7 April 1552<sup>lxxi</sup>.

Reference to “M[aest].<sup>ro</sup> Gianello” appears in a letter of 30 March 1552 from Leone Leoni to Antoine Perrenot, Bishop of Arras and President of the Crown’s Council<sup>lxxii</sup>. On 6 December 1522, notary public Battista Rozzi recorded the sale and lease of a property by Battista Mazenta to Torresani<sup>lxxiii</sup>. In a dispatch dated 31 December 1552 and addressed to Ferrante Gonzaga, Governor of Milan, Emperor Charles V ordered payment of the 100–gold escudo pension assigned to “M[agist].<sup>ro</sup> Janello Toriano” in March<sup>lxxiv</sup>. That note was followed by two pay orders, one dated 28 February 1553 “as his pension for the current year”<sup>lxxv</sup> and the other 23 March 1553 “for the above pension for the current year that ends next December”<sup>lxxvi</sup>. In a 22 August 1553 letter, Francesco Crasso, the official in charge of ordinary entries, insistently informed Gonzaga that “he should require the Master Clockmaker Gianello to present himself at court, accompanied by another official, and make a clock for His Majesty”, noting that he would need to “be given the money necessary for the trip, as an advance on his pension”<sup>lxxvii</sup>.

In very short order, on 25 August 1553, given that “Master Clockmaker Gianello” was to travel to “His Majesty’s court”, the governor ordered that “he should receive 100 scudos for the journey”<sup>lxxviii</sup>. On 26 August 1553 he signed an order “to pay Master Clockmaker Gianello” his 100 escudos. An order issued on 21 January 1554 certified payment of his “pension for the present year that will end on the last day of December next”<sup>lxxx</sup>. Emperor Charles V wrote to Francesco Crasso on 13 February 1554 urging him to “order Maestro Juannello Turriano to bring us the large clock he made” and “furnish him with money therefor”<sup>lxxxix</sup>. Crasso notified Gonzaga on 24 February 1554 that “pSince Master Gianello

<sup>1</sup> “embiando a mandar a maestre Juannello Turriano nos trayga el relor grande que el hizo” and “proueerle de dinero para ello”

would have to travel in two or three days” and since “Mastro Iacopo from Trezzo who made the glass globe would be travelling with him” they should be paid 150 escudos<sup>lxxxii</sup>. And on 27 February 1554, the governor approved a cash advance “for the detailing on the clock”, “for both the order and further provisioning”<sup>lxxxiii</sup>.

A letter from Marco Antonio Patanella to Antonio Perrenot de Granvelle dated in Milan on 3 March 1554 confirmed that “M[*aest*].<sup>ra</sup> Giannello e M[*aest*].<sup>ro</sup> Jacomo Trezzo” had departed the day before<sup>lxxxiv</sup>. The protective sheath around a royal dispatch, the latter lost, dated in Brussels on 3 October 1555, contained an order signed by Philip II addressed to Fernando Álvarez de Toledo, Third Duke of Alba, to “pay Mastro Gianello the sum he is to receive for his pension, amounting to 100 scudos a year”<sup>lxxxv</sup>. According to a later and longer royal dispatch from Philip II, dated 29 December 1555, attached to an order, “M[*agist*].<sup>ra</sup> Janello Torriano” was on leave in Milan, but his presence was required in Brussels with Leoni and “all the provisions for the crystal components, and all other necessary elements to finish his work”, awarding him “all that is owed him for his pension” as well as all “the money necessary” for a comfortable journey. Under a 10 February 1556 order he was assigned 75 escudos for the trip<sup>lxxxvi</sup> and under two others, one dated 15 January 1556, 100 escudos for “full payment for the year 1555”<sup>lxxxvii</sup> and the other 17 January 1556, 25 escudos as “payment for the months of October, November and December last”<sup>lxxxviii</sup>, i.e., 1555.

A deed registered on 10 January 1556 by notary public Battista Rozzi shows that Juanelo acquired property from Battista Mazenta<sup>lxxxix</sup>; a 12 February 1556 letter to Antoine Perrenot de Granvelle<sup>xc</sup> from *Condottiero* Giovanni Battista Castaldo made reference to “lione aretino et mast[*rp* gianello”; on 9 March 1556 Juanelo vested his son-in-law Orfeo Diana, married to his daughter Bárbara Medea, with a power of attorney<sup>xc</sup>. He left for the Netherlands, dropping all his prior engagements. On 16 May 1556 Gonzaga had to insist to Annibale Litolfi, ambassador for Mantua at Brussels, that he should “again remind Mastro Gianello to answer the letter he had written to him”, or “let me know his intentions with regard to my clock”<sup>xcii</sup>. Sculptor Leoni reminded Turriano of Ferrante Gonzaga’s commission, according to a letter he wrote to the governor from Brussels on 13 June 1556, in which he claimed to have “found Master Gianello, whom Your Excellency must know quite well, and persuaded him to do everything except what he is supposed to do for you, under the terms of your agreement”<sup>xciii</sup>.

In another letter to Gonzaga on 1 August 1556, Leoni regretted that “this ox disguised as a man hates me” while noting nonetheless “I managed to calm him down when he was about to be imprisoned and when his son died I sent him 25 scudos because he did not have the money to bury him”<sup>xciv</sup>; in his reply, Gonzaga described Juanelo’s firm, inflexible and obstinate personality: “he is a stubborn man who must be goaded and spurred on to persuade him to do things he has no desire to do”<sup>xcv</sup>.

The rest of his life history can be deduced from 150 documents in Spanish, all published, while the notes compiled by modern biographers refer more often than not to undocumented tradition, although referred to in works dating from the mid–sixteenth to the early nineteenth century. These sources have been summarised by Luis de la Escosura y Morrogh (1888)<sup>xcvi</sup>, Francisco Rodríguez Marín (1917)<sup>xcviii</sup>, Luis Montoto y Rautenstrauch (1922)<sup>xcix</sup>, Miguel Herrero García (1928)<sup>c</sup> and José Cristóbal Sánchez Mayendía (1958). A typed manuscript entitled *Fonti antiche per Janello Torriano* by Francesco Maria Liborio (1981), custodied in the Biblioteca Statale di Cremona, while incomplete, is nonetheless indispensable for at least partially revising that now classical historiography<sup>cii</sup>.

Further archival findings may come to light at some future time (an unlikely but not impossible event). Until then, the scant biographical events in Juanelo’s “Italian” period that can be gleaned from a comparison of the rare primary sources, the chronicles, legendary or otherwise, published during and after his lifetime and certain conclusions extracted from the most meticulously documented historic treatises can be summarised as follows. Juanelo Turriano or Giannello Torresani was born around 1500 at Cremona (the city, not the county, as contended by some historians) to a small landowner and mill leaser, of modest but not meagre means, Gherardo di Giannello, from San Silvestro quarter. The precocious young Juanelo learned, probably from Giorgio Fonduli, a physicist, mathematician and astrologer also from Cremona, more than just the rudimentary theories applied to their trades by engineers, smiths, and astrarium, armillary sphere, clock, robot and machine crafters.

In the Cremona Cathedral accounts dating from 1529 to 1534, he was referred to as “magister”, i.e., trained craftsman, and was paid for his work on two clocks located on the famous “Torrazzo” and for making the baptismal font doors. He married fairly late in life (perhaps because of his “rough, uncouth and rustic”<sup>cm</sup> features, compensated by his growing fame and economic prosperity), in 1530, when he lived in Santa Ágata quarter.



His bride was “domina” Antonia de Segiella, daughter of Bernardino and Tommasa de Restelli, who came forward with a first dowry worth 50 lire, followed by another for 150, 50 in cash and the remaining 100 in kind (“in rebus et robi”). His daughter Bárbara Medea was born around 1531 and the couple later had a “figliuolo”, referred to by Leoni, who died at Milan. In 1536, after his father’s death and after moving to San Próspero quarter, Juanelo committed to taking on Marsilio Botti’s son Giovan Francesco for a two-year apprenticeship to teach him the art of clock making. In 1537, with Marsilio’s consent, the apprenticeship was suspended for 6 months and then resumed for the 9 months remaining to complete the term.

The commission that would take him to the court (restoration and copy of Giovanni Dondi’s astrarium or astronomic clock) came at just that time<sup>civ</sup>. Francesco II Sforza gave the instrument, which “neglect” in the library of the Pavia castle “had ruined”, to Girolamo Cardano, who sold it “for twenty gold talents” to Charles V, aware of the monarch’s obsessive clock-collecting. This sale concurred with the emperor’s visit to Bologna (5 November 1529 – 23 March 1530) for his coronation: according to historian Bernardo Sacchi “In the sixteenth century, in about 1529, the year when Charles V was crowned emperor in Bologna”<sup>cv</sup>. Cardano and Willem Snouckaert, Charles V’s biographer, contended that the emperor acquired it at that time, and not after his visit to Pavia in 1533, and ordered to have it repaired, commissioning Turriano to study the ancient mechanism. As he later explained in detail to his friend Cardano, Juanelo recomposed and restored the device (“diligently restored by Gianello il Cremonese”, “Gianello rebuilt it entirely”), and introduced a number of improvements (“and on those grounds built another for Charles V”).

In 1538, indeed, Charles V rid himself of the former *astrarium* “the illustrious Prince rid himself of the valuable device that simulated the movements of all the stars”<sup>cvi</sup>. Snouckaert’s notes on Charles V confirmed that it took 7 years (1530–1537) to reconstruct Dondi’s astronomic clock (a task “which Gianello Torriani il Cremonese had performed with such mastery over seven years”<sup>cvii</sup>). Cardano’s notes for the year 1538, which appeared in the *Libellus De libris propriis* (1544) and in the *Liber de libris propriis* (1550) but not yet reproduced in the literature, are essential in this regard. As direct observations by a scholar who knew Turriano, they are especially valuable. After his relocation in Milan around 1539, Juanelo repaired to the imperial court at Worms in 1545. When he returned to Milan, Ferrante Gonzaga, governor of Milan after 1546, invited him

to finish the *astrarium* that would replace Dondi's.

That would explain the payments received in 1547 and 1548 and his visit to the court in 1549, clearly to deliver the clock. Released from the onerous *astrarium* commission, he set to work on his armillary sphere, conserved with the inscription "IANELLVS \* 1549 \* MEDIOLANI"<sup>cviii</sup>. Other indications of this change of activity can be found in Cardano: while the 1551 edition of his *De Svbtilitate Libri XXI* made scant mention of Juanelo's clock making<sup>cix</sup>, in the 1554 edition, dated "xi. Calendas Maij, anno M.DLII. Lutetiæ, in itinere", i.e., 1552, he not only provided a general description of the *astrarium*, but referred to its "lock that could work with any combination", a seven-letter combination lock, built in all likelihood between 1550 and 1551<sup>cx</sup>. After his 1550 election as *abate del paratico*, or president of the iron smiths' guild (perhaps in acknowledgement of his exceptional *astrarium* enterprise), he travelled to Augsburg to show Charles V the clock, which the emperor was anxious to see even in its incomplete state, 4 years after having commissioned it. Juanelo returned to Milan to finish the project, moved from Porta Nuova to Porta Romana and travelled back to the court in 1551, where in early 1552 he was awarded a yearly pension of 100 gold escudos.

When he returned to Milan that year, he purchased a property, worked on the clock known as the "Cristalino" from 1552 to 1553, left for Brussels in 1554 with Milanese sculptor and goldsmith Jazopo Nizzola ("Jacopo da Trezzo"), author, according to Gasparo Bugati, of the "a quartz sphere, separated and divided, with a mappa mundi on its surface and carvings representing the constellations", a device so extraordinary that it was displayed "prima che lo portasse in Ispagna" to prominent figures, such as "Ambassadors"<sup>cx</sup>. After a brief leave in Milan, he was called back to Brussels in 1555, travelling to that city in 1556, but not without first putting his affairs in order, making a will and appointing an attorney. According to a remark by *Condottiero* Giovanni Battista Castaldo (nagged by his wife Santippa for not having obtained the Golden Fleece), Turriano also felt harassed by his wife's laments on his departure: "I happen to be travelling with Leone Leoni and Master Gianello, who are also getting away from their nagging wives".

On 8 August he left the capital of the Netherlands with the emperor. On 15 September he embarked at Vlissingen, arriving at Laredo on the 25<sup>th</sup>. On 6 October he reached Burgos and Valladolid on the 13<sup>th</sup>, Barco de Ávila on the 21<sup>st</sup> and Jarandilla de la Vera on 10 November. There he remained from 12 November through the completion of the works

on San Jerónimo de Yuste Palace, where the emperor lived beginning in February 1557. On 21 September 1558 Charles V embarked on his last voyage and Juanelo Turriano on his “Spanish” career.

### **3. *Three members of a “extended family”***

What do these notes reveal about his family? At what time might Leonardo Turriano’s (Torriani’s) life story have intersected with Juanelo’s? As the foregoing shows, the latter lived in Cremona from approximately 1500 to 1538 and in Milan from 1539 to 1556, except when he was at the court in Germany. He travelled to Yuste and after the emperor’s death in 1558 relocated in Toledo. Any father–son relationship between the two would have to be excluded on purely logical grounds. Leonardo, who was born around 1559, did not even bear Juanelo’s surname, “Torresani”. As Castaldo’s dispatch shows, Juanelo left his wife in Milan when he journeyed to Flanders, fleeing with Leone Leoni from their respective mates’ ire. Antonia de Segiella, moreover, could not have been less than fifty at the time, and the spouses (according to the documents) had only two direct descendants: Bárbara Medea and a “figliuolo”, whom Juanelo outlived and whose burial was paid for with money borrowed from Leoni.

Might Leonardo have been “Juanelo Turriano’s illegitimate son” as some authors claim? But where was he born? In Milan, to an unknown woman, between 1539 and 1556? In Toledo after 1558? The second option seems unlikely, because it would mean he was conceived by an old man in his sixties. The former would imply that when he came to Castile in 1583, his aged father was near death. Improbable, but not impossible. If, however, he was fathered by a person of Europe–wide fame such as Juanelo Turriano, why not use his surname? Why make no claim to his origins at a time when illegitimacy was by no means a social bane? Fortunately, the answer to these questions can be found in a document in which Leonardo certified his true lineage. On 1 June 1588 at La Laguna, in the province of Santa Cruz de Tenerife, in an instrument delivered before notary public Benito Ortega, he authorised “Geronimo rresto Italian resident of the hamlet of Madrid and fran[cis].<sup>co</sup> de cuevas, citizen of Burgos” to receive the properties that “belonged to my father Ber[nar].do toriany from Milan, deceased, and to which I am entitled as his legitimate son and universal heir”<sup>cxii</sup>.

Philip II's engineer, therefore, claimed to be Bernardo Torriani or Turriano's son and sole heir. He was not born "presso Milano" as asserted in a surprising introduction to Leonardo's book<sup>cxiii</sup>: "vezino" means "citizen", with full citizenship rights. This nonetheless poses another question: Leonardo's treatise is entitled *Alla maestá del Re catolico Descrittione et Historia del Regno del Isole Canarie gia dette le Fortvnate con il parere delle loro fortificationi di Leonardo Torriani Cremonese*<sup>cxiv</sup>. That introduces a contradiction between his father Bernardo's origin as "erstwhile citizen of Milan", the son's own origin according to the same document ("I, Leonardo toriana, engineer To his maj[est].y, of Milanese birth and R[esident] at pres[ent] on the island of ten[erif].e") and his "Cremonese" origin according to the treatise. Alejandro Cioranescu attempted to find an explanation for this thorny issue.

"He was more than likely born at Cremona, in light of the title of the work published hereunder. His claim to Milanese origin, according to the aforementioned document, as well as in another published by Sousa Viterbo, *Diccionario*, Vol. iii, page 147, does not contradict that fact. The city of Cremona lay within the domain of Milan, and anyone born at Cremona, such as Leonardo Torriani, was Milanese for the legal intents and purposes pursued in the aforementioned documents. Nonetheless, the fact that Leonardo's father lived and died at Milan does not rule out the second possibility altogether"<sup>cxv</sup>.

That interpretation is less than wholly satisfactory, however, in light of other sources and contemporary usage. The explicit qualifier, "Cremonese", indisputably refers to origin, if not to birth, in that city. Bernardo's citizenship, inherited by his son Leonardo, was a royal privilege transferable to his descendants. Proof of this may be found in the example of his famous contemporary, military engineer Giorgio Paleari Fratino, born at Morcote, in Lugano, one of the eight Helvetic Confederation judicial districts in Lombardy. Here also, the right claimed was for "his children" who as "citizens, whose origins lie in the aforesaid City, can, with their own children, sell and buy, alienate assets and do other things, conduct business and pursue a profession, both within and outside the jurisdiction of the city"<sup>cxvi</sup>. Bernardo Turriano must have been in the same situation: he was obviously Cremonese if his son defined himself as such, but awarded hereditary Milanese citizenship. Having reached this point, the time has come to solve the enigma posed by Cioranescu: "We can establish no relationship between Juanelo and Bernardo. One is, naturally, possible and to some extent even likely; but any such relationship may have been less direct, given the many Torriani or Turianos who lived in Cremona and Milan

beginning in the thirteenth century”<sup>cxvii</sup>. The fact is that they were indeed related. In the course of the research conducted for this article, a number of sources were reviewed to verify the existence of a less close relationship, and one of Ercolano Marani’s notes led the authors to two decisive and unpublished documents<sup>cxviii</sup>. With the death on 28 August of architect Giovan Battista Zelotti at Mantua, the Giovan family needed a substitute. On 24 September, the chancellery of the ducat wrote to Ludovico Ferrari and Giulio Trecco at Cremona as follows.

1578: 24: 7bre Jll[ustrissi].<sup>mo</sup> S[ign].<sup>or</sup> mio oss[eruandissi].<sup>mo</sup>

Essendo stato proposto a S.[ua] Alt[ezz].<sup>a</sup> per suo Architetto et ingegniero ms. Bernardo Torriano Cremonese parente et alieuo d[e]l gia ms. Janello la Alt[ezz].<sup>a</sup> S.[ua] mi ha com[m]esso ch’io scriua a V.[ostra] S.[ignoria] p[er] hauer minuta informat[ion].<sup>e</sup> da lej circa tutte le qualita Sue, pero p[re]go V.[ostra] S.[ignoria] ad auisarmi ch[e] homo egli sia di ch[e] ualore et isperienza di ch[e] eta s’e sano, s’e rico o, pouero, chi ha s[er]uito sin hora, s’e di buoni costumj, et se V.[ostra] S.[ignoria] non n’e informata a pieno di gra[zia] ella se ne informi et me ne dia minutisspm)^ raguaglio, con che p[er] fine a V.[ostra] S.[ignoria] bacio le mani racc[omandando].<sup>le</sup> in gra[zia] Di Gonzaga a 24 di 7bre 1578<sup>cxix</sup>.

The letter was very explicit: before hiring him as his “Architetto et ingegniero”, Duke William I Gonzaga sought information about “Bernardo Torriano Cremonese parente et alieuo del gia ms. Janello” He defined Bernardo as Juanelo’s relative and disciple both, and of Cremonese origin, for the request for information was addressed to Cremona, not Milan. Two days later, on 26 September, Giulio Trecco replied to the chancellery of the ducat in the following terms.

1578. 26. 7b[r].<sup>e</sup> Jll[ust].<sup>re</sup> S[igno].<sup>r</sup> mio oss[eruandissi].<sup>mo</sup>

Questa mattina per tempo ho receuto la gratissima de V.[ostra] S.[ignoria] Jll[ust].<sup>re</sup> delli 24 del corrente et uisto quanto in essa mi comanda circa al piliar informatione de Ms. bernardo Toriano qual dice esser statto proposto p[er] ingegniero a S[ua] A[ltezza] il qual p[er] quanto mi uiene significato dal S[igno].<sup>r</sup> Gio’ battista lamo qual era maestro di casa della bona memoria del Conte brocardo persico il qual lo ha conosciuto in Spagna in casa de Ms. Janello et fori in altri luochi dice che no[n] e homo di eseguir le cose che propone si p[er] la sua poca esperienza nel suo esertitio si ancho p[er] la instabilita sua ne ho poi dimandato il S[igno].<sup>r</sup> Gio’ battista persichello et S[igno].<sup>r</sup> Gio’ battista ali quali praticauano intrinsechame[n]te in casa di detto Conte il qual uolse far proua se costui li bastaua l’animo

di far una balissa come fece Janello il qual tolse il carico di farla ma no[n] riusi p[er] quello mi dicono detti il S[igno].<sup>ri</sup> ho poi parlato ad altri artefici parenti di Gia Ms. Janello li quali in summa mi concludeno che no[n] e di tanto ualor quanto egli si presume et che e instabile che no[n] ha fatto riusita alcuna ne a turino ne a parma ne piacenza in Cremona egli no[n] e statto adoperato in cosa alcuna saluo in far una fontana dal S[igno].<sup>r</sup> Gio' fran[ces].<sup>co</sup> Stanga la qual no[e] e riusita e uen che e cosa di poca spesa et p[er] concluder breuemente il tutto dico a V.[ostra] S.[ignoria] che l'amico e de etta de qua[ra]nta in quarantacinque anni bello parlatore instabile et no[n] molto sufficiente superbo et pouero et di presente sta a monticelli nel piacentino questo e quanto sin hora ho potuto trouare se trouaro cosa in contrario ne hausaro subito V.[ostra] S.[ignoria] p[er] homo a posta et si mi conose atto in cosa alcuno p[er] seruitio di S[ua] A[ltezza] et di lei la prego a comandarmi senza alcuno mio risparo con che a V.[ostra] S.[ignoria] di core basio le mani et le prego da N[ostro] S[igno].<sup>r</sup> felicità et co[n]tento como desidera da Cremona il di 26 Settembre 1578.

D[i] V.[ostra] S.[ignoria] Jll[ust].<sup>re</sup>  
Affettponatissi.<sup>TM</sup> seruit.<sup>[ore]</sup>  
Giulio treccho<sup>cx</sup>

This correspondence also provides a key to establishing the relationship between Bernardo, and hence Leonardo, and Juanelo. The information sent from Mantua was provided by Giovanni Battista Lami, “maestro di casa della bona memoria del Conte brocardo persico il qual lo ha conosciuto in Spagna in casa de Ms. Janello et fori in altri luochi”, Giovan Battista Persichello and Giovan Battista Ala, friends of the aforementioned Broccardo Persico, who had unsuccessfully commissioned from Bernardo “a catapult like the one Gianello made”. In addition, according to “other craftsmen related to Master Gianello”, Bernardo had acquired no notoriety in Turin, Parma or Piacenza, and his only commission in Cremona was to “build a fountain” (in obvious tribute to Juanelo’s “hydraulic” designs), in which he was likewise unsuccessful.

All Trecco had to add in his letter was that Bernardo, “forty to fifty-five years of age, a gifted orator, fickle and scantily talented, proud and poor”, lived at Monticelli di Ongina, in Piacentino. Further to that information, the architect must have been born between 1533 and 1538 and lived for a time “in Spain, at Master Gianello’s home”, where Persico met him. Secret counsellor to the state of Milan and general commissary to the army, Broccardo Persico had travelled to Toledo in August 1561, from where he was later sent

by Philip II on a mission to Pius IV in connection with donations to Cardinal Barlo Borromeo's family. It would not have been at all surprising, then, for him to have visited his famous fellow citizen Juanelo Turriano and met his "relative and apprentice" Bernardo Turriano, his 23- to 28-year old apprentice. Count Persico later encountered him, as an adult, "fori in altri luochi", i.e., through his patrons.

Bernardo would seem to have moved to Toledo after the birth (around 1559) of his son Leonardo to learn the secrets of a trade he longed to practise with the same success as his highly reputed relative Juanelo, court engineer for the deceased emperor and at the time for King Philip II, and, more than likely, in pursuit of an introduction to the court. He found that success elusive, however, in light of the obvious incompetence displayed at the courts of Emanuele Filiberto, Duke of Saboya from 1553 to 1580, and Ottavio Farnese, Duke of Parma and Piacenza from 1550 to 1586. His son, in contrast, was successful, as attested to by his master engineer status.

Further to that order of events, Leonardo (indisputably Bernardo's only son, inasmuch as he claimed to be his "universal heir") was born when his father was between 21 and 26 years old, an age in keeping with contemporary convention. One might suspect that Bernardo would have capitalised on his family ties, no matter how weak, to ask Juanelo to help his son's career. At the time, Juanelo had his own daughter, Bárbara Medea, living with him. As he had taken Bernardo in at Toledo when he was about the same age (approximately 24), he may well have called young Leonardo to Spain or recommended him to the court.

Leonardo's life, in fact, merits further research: although the Milan State Archives contain no information on him, the vast ocean of records in the State Archives at Cremona should be systematically screened. That may unearth details on relationships among the various branches of what would appear to be a single family. For the time being, all that is known for sure is that Leonardo was of Cremonese origin and indisputably related to Juanelo. Be that as it may, the assertion that Leonardo and Juanelo were unrelated has been fully rebutted and Wolfel's intuition confirmed: "Leonardo, very likely Juanelo's relative, was born in Cremona and invited to come to Spain by Juanelo".

Lastly, the allusion in Trecco's letter to "other craftsmen related to Master Gianello" is highly significant: Charles V's clock maker had other more or less close relatives in

Cremona and Milan who engaged in science or the arts. One known case is painter Girolamo Torriani, Juanelo's "great-grandson" according to the recently published handwritten notes left by Giambattista Biffi, a Cremonese author writing during the Enlightenment Age (1780/90). Girolamo lived in the second half of the sixteenth century. A disciple of Camillo Procaccini engaging in both public and private commissions in Milan, he retired to a Capuchin monastery around 1600 in the throes of "maliconica" depression<sup>xxi</sup>. Information on other members of the Torriani family and hence Juanelo's relatives, may yet come to light.

## Abbreviations, archives

AHP	Archivo Histórico Provincial, Santa Cruz de Tenerife collections: <i>AP</i> = <i>Archivos Públicos</i> ; <i>AR</i> = <i>Antiguo régimen</i> ; <i>DFP</i> = <i>de la Fe pública</i> ; <i>DSC</i> = <i>Distrito de San Cristóbal de la Laguna</i> ; <i>J</i> = <i>Judiciales</i> ; <i>N</i> = <i>Notariales</i> ; <i>PN</i> = <i>Protocolos notariales</i>
ascm	Archivio Storico Civico, Milano collections: <i>BT</i> = <i>Biblioteca Trivulziana</i> ; <i>D</i> = <i>Dicasteri</i>
ascr	Archivio di Stato, Cremona collections: <i>C</i> = <i>Comune</i> ; <i>MJBA</i> = <i>Miscellanea Jurium Bresciani-Arisi</i> ; <i>N</i> = <i>Notarile</i>
ASDCR	Archivio Storico Diocesano, Cremona collections: <i>FC</i> = <i>Fabbriceria Cattedrale</i> ; <i>RP</i> = <i>Registri provisionum</i>
ASM	Archivio di Stato, Milano collections: <i>AN</i> = <i>Archivio Notarile</i> ; <i>CS</i> = <i>Cancellería di Stato</i> ; <i>DR</i> = <i>Dispacci Reali</i> ; <i>IL</i> = <i>Indice Lombardi</i> ; <i>N</i> = <i>Atti dei Notai di Milano</i> ; <i>RCS</i> = <i>Registri della Cancelleria di Stato</i> ; <i>RN</i> = <i>Rubriche dei Notai</i>
asmn	Archivio di Stato, Mantova collections: <i>G</i> = <i>Gonzaga</i>
asp	Archivio di Stato, Parma collections: <i>ES</i> = <i>Epistolario scelto</i>
beum	Biblioteca Estense Universitaria, Modena collections: <i>AC</i> = <i>Autografoteca Campori</i>
bguc	Biblioteca Geral da Universidade de Coimbra
BNM	Biblioteca Nacional, Madrid collections: <i>M</i> = <i>Manuscritos</i>
bslccr	Biblioteca Statale e Libreria Civica, Cremona collections: <i>M</i> = <i>Manoscritti</i>
pam	Pinacoteca Ambrosiana, Milano
RAHM	Real Academia de la Historia, Madrid



collections: *CG* = *Colección Garibay*

rbm Real Biblioteca, Madrid

collections: *CCG* = *Cartas del Cardenal Granvela*

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ii See, for all: F. X. JUFRE GARCÍA, *El artificio de Juanelo Turriano para elevar agua al Alcázar de Toledo (s. XVI)*. Lérida, Editorial Milenio, 2009.

iii J. APARICI y GARCÍA, *Continuación del Informe sobre los adelantos de la Comisión de Historia en el Archivo de Simancas, dirigido al excmo. sr. Ingeniero General, Teniente General Don Antonio Remon Zarco del Valle, Por el Coronel del Cuerpo de Ingenieros Don José Aparici y García, individuo correspondiente de la Academia de la Historia. Tercera Parte. Trata de las biografías de los ingenieros que existieron en España en el siglo XVI*. Madrid, Imprenta del Memorial de Ingenieros, 1851, p. 82.

iv D. J. WOLFEL, "Leonardo Torriani e le fortificazioni nelle Isole Canarie sul finire del '500". *Bollettino dell'Istituto Storico e di Cultura dell'Arma del Genio*, No. 15, 1942, pp. 26–72, here pp. 27 and 33–34.

v A. RUMEU DE ARMAS, *Piraterías y ataques navales contra las Islas Canarias*. Madrid, Consejo Superior de Investigaciones Científicas, 1948, Vol. 5, Vol. II, Part I, pp. 365–367.

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x G. BATTELLI, "Una famiglia d'architetti militari italiani in Portogallo: i Torriani". *Bollettino dell'Istituto Storico e di Cultura dell'Arma del Genio*, n° 11, 1939, pp. 73–75; G. BATTELLI, "Turriano, Leonardo". In: H. VOLLMER (coord.), *Allgemeines Lexikon der Bildenden Künstler von der Antike bis zur Gegenwart begründet von Ulrich Thieme und Felix Becker*. Leipzig, E. A. Seemann, 1939, Vol. XXXIII, p. 502.

xi L. TORRIANI, *Die Kanarischen Inseln und ihre Urbewohner. Eine unbekannte Bilderhandschrift vom Jahre 1590*. Edited by D. J. WOLFEL, Leipzig, K. F. Koehler Verlag, 1940.

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xiii M. L. DÍAZ-TRECHUELO, "Las fortificaciones de Manila en la edad moderna". *Revista de Historia Militar*, V, No. 8, 1961, pp. 28–46, here p. 29.

xiv R. MOREIRA, "O Torrao do Paco da Ribeira: arquitectura e decoracao". *O Mundo da Arte*, No. 14, 983, pp. 43–48.

xv F. G. MARTÍN RODRÍGUEZ, *La primera imagen de Canarias. Los dibujos de Leonardo Torriani*. Santa Cruz de Tenerife, Colegio Oficial de Arquitectos de Canarias, 1986.

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<sup>xxiii</sup> *Dos discursos de Leonardo Turriano, el primero sobre el Fuerte de San Lorenzo de Cabeça ceca en la boca del Taxo, el Segundo sobre limpiar la barra del dicho rio y otras diferentes*, en *Portugal e Flandres – Visoes da Europa 1550–1680*. Edited by R. MOREIRA. Lisboa, Secretaria de Estado da Cultura, 1992, pp. 181–183.

<sup>xxiv</sup> D. SUÁREZ QUEVEDO, *Racionalidad y concepción classicista de la ingeniería militar bajo Felipe II. Leonardo Torriani y su obra*, en *VI Jornadas de Arte. La visión del mundo clásico en el arte español. Madrid, 15–18 de diciembre de 1992. Actas, Madrid, 1993*. Madrid, Universidad Complutense, Centro Superior de Investigación Científica CSIC, 1993, pp. 105–116.

<sup>xxv</sup> J. M. PINTO and de la ROSA, *Apuntes para la Historia de las Antiguas Fortificaciones de Canarias*. Santa Cruz de Tenerife, Museo Militar Regional de Canarias, 1996, pp. 13, 41, 43, 87, 99, 156157, 174–175, 177, 204, 221, 247, 249, 267, 297, 315, 319, 343, 361, 374, 383, 434, 525, 605, 635, 719725, 728 and 730.

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<sup>xxviii</sup> L. TORRIANI, *Descrigao e história do Reino da Ilhas Canárias antes ditas Afortunadas, com o parecer das suas fortificagoes*. Edited by J. M. AZEVEDO SILVA. Lisbon, Cosmos, 1999.

<sup>xxix</sup> A. CÁMARA, *Imagen y realidad de la fortificaciones de las islas Canarias en el siglo XVI*, en *Curso cartografía y fortificaciones en Canarias siglos XV al XVIII. Ciclo de conferencias*. Santa Cruz de Tenerife, Cátedra Cultural "General Gutiérrez", Centro de Historia y Cultura de la Zona Militar de Canarias, Vicerrectorado de Extensión Universitaria de la Universidad de la Laguna, 2000, pp. 147–169, here pp. 154–158.

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<sup>xxxiii</sup> D. SUÁREZ QUEVEDO, "De escultura y pintura en los *Opuscoli Morali* de Alberti editados por Cosimo Bartoli (1568), con apostillas de Leonardo Torriani". *Anales de Historia del Arte*, No. 16, 2006, pp. 185–228.

<sup>xxxiv</sup> D. SUÁREZ QUEVEDO, "Navegación fluvial e ingeniería militar en España, siglos XVI–

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xl ASCR, N, fil. 641–690 (Giovanni Maria Ariberti 10/4/1508–3/3/1564), fil. 645 (26 March 1520–13 March 1521), sheets 278 v–279. *Carta locationis facta p[er] dictos D.[ominum] Bapt[ist]am de fabagrossis s[upra]s[cript]um Gherardo de torexanis et M[ar]chino de cisijs ibi p[rese]ntib[us]*, "Eisdem An[n]o Mill[esi]mo Jnd[ictione] m[en]sis die et loco factib[us].", ["1520 Jnd[ictione] octaua die Sabbati vigesimo t[er]tio m[en]sis Junij"], " ", cited, but with the wrong date, "28 giugno", by: BARBISOTTI, "Janello "Torresani".", op. cit., p. 258.

xli ASCR, N, fil. 641–690 (Giovanni Maria Ariberti 10/4/1508–3/3/1564), fil. 648 (23 March 1523–24 March 1524). *Carta donationis Jnt[er] uiuos Jreuocabilis facta p[ro] ut Jnfra*, "1523 Jnd[ictione] vndecima die Jouis viginti te[r]tio m[en]sis aprilis", cited only in: BARBISOTTI, "Janello "Torresani".", op. cit., p. 258.

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xlv ASCR, N, fil. 641–690 (Giovanni Maria Ariberti 10/4/1508–3/3/1564), fil. 654 (26 March 1529–30 settembre 1529). *Carta Confessionis et finis facta p[ro] ut Jnfra*, "1529 Jndict[i]one p[rim]a die Sabbati vigesi[m]o p[rim]o m[en]sis Maij", cited only in: BARBISOTTI, "Janello "Torresani".", op. cit., p. 259.

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xlvii ASCR, N, fil. 641–690 (Giovanni Maria Ariberti 10/4/1508–3/3/1564), fil. 655 (1

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<sup>xlviii</sup> ASCR, N, fil. 699–728 (Giovanni Pietro Allia 12/12/1508–10/10/1560), fil. 708 (1536–1537), reg. “1536”, sheets 135–136. *Carta c[on]uentionu[m] et pactor[um] p[ro] ut Jnfra p[ar]tes Jnfras[criptas]*, “1536 Jnd[ictione] nona die m[er]curij vig[esim].° sexto Julij”, cited and partially copied in: BARBISOTTI, “Janello “Torresani”.”, op. cit., p. 262.

<sup>xlix</sup> ASCR, N, fil. 699–728 (Giovanni Pietro Allia 12/12/1508–10/10/1560), fil. 708 (1536–1537), reg. “1537”, sheets 20 and v. *Carta c[on]uencionu[m] p[ro] et Jnter p[ar]tes Jnfras[criptas]*, “1537 Jnd[ictione] decima die m[ar]tis dec[im].° Aprilis”, cited in: BARBISOTTI, “Janello “Torresani”.”, op. cit., p. 263.

<sup>l</sup> ASDCR, *FC, RP 1–2 (1519–1538/1538–1552)*, reg. 1 (Liber Provisionum Fabrice Maioris Ecclesie 1519–1538), s. 159. *P[ro] m[agist].<sup>ro</sup> Janello de toresanis*, [Cremona], “Die s[upra]s[crip]to” [“Die 6 Julij 1529”], part only and with modern spelling in: F. RIGHI, “Janello Torriani, genio del Rinascimento”. *Strenna dell’A.D.A.F.A. per l’anno 1995*, n° XXXV, 1995, pp. 81–102, here p. 83, LEYDI, “Un cremonese del Cinquecento...”, op. cit., p. 131, and BARBISOTTI, “Janello “Torresani”.”, op. cit., p. 260.

<sup>li</sup> ASDCR, *FC, RP 1–2 (1519–1538/1538–1552)*, reg. 1 (Liber Provisionum Fabrice Maioris Ecclesie 1519–1538), s. 185. *P[ro] M[agist].<sup>ro</sup> Janello de toresanis*, [Cremona], “die 25 febr[uarij] 1533” [recte 1534], señalado: LEYDI, “Un cremonese del Cinquecento...”, op. cit., p. 131, in part only and with modern spelling in: BARBISOTTI, “Janello “Torresani”.”, op. cit., p. 261.

<sup>lii</sup> ASDCR, *FC, RP 1–2 (1519–1538/1538–1552)*, reg. 1 (Liber Provisionum Fabrice Maioris Ecclesie 1519–1538), s. 186. *P[ro] Janello de toresanis*, [Cremona], “1534 die 4 Aprilis”, señalado: RIGHI, “Janello Torriani...”, op. cit., p. 83, part only and with modern spelling in: LEYDI, “Un cremonese del Cinquecento...”, op. cit., p. 131; BARBISOTTI, “Janello “Torresani”...”, op. cit., p. 261.

<sup>liii</sup> ASDCR, *FC, RP 1–2 (1519–1538/1538–1552)*, reg. 1 (Liber Provisionum Fabrice Maioris Ecclesie 1519–1538), s. 188. *P[ro] Janello de toresanis*, [Cremona], “die 22 Sep[tem]bris” [1534], in part only and with modern spelling in: LEYDI, “Un cremonese del Cinquecento...”, op. cit., p. 131; BARBISOTTI, “Janello “Torresani”.”, op. cit., p. 261.

<sup>liiv</sup> ASM, *RCS*, s. XXII, Mandati, r. 4 (7 January 1542–18 December 1545), s. 117. [Mando], “Á di p[rim].° d’ap[ri].<sup>le</sup> 1544 Jn Ast”, with modern spelling in: LEYDI, “Un cremonese del Cinquecento...”, op. cit., p. 133, note 26.

<sup>liv</sup> ASM, *CS*, b. 57, Part “April–June 1545”, No. 158. *Al mag[is]trato Donna Maria D’Aragona Marchesa di Vasto*, “Jn M[i]l[an]o alli 19 di Giugno 1545”, in part only and with modern spelling in: LEYDI, *Un cremonese del Cinquecento*, op. cit., p. 133, note 26.

<sup>lii</sup> ASM, *RCS*, s. XXII, Mandati, r. 7 (3 January 1547–19 April 1548), sheet 72. [Mando], [Milano], “A XVIII d[ett]” [April 1547], with modern spelling: LEYDI, *Un cremonese del Cinquecento*, op. cit., p. 134.

<sup>lii</sup> ASM, *RCS*, s. XXII, Mandati, r. 7 (3 January 1547–19 April 1548), sheet 116v. [Mando], [Milano], “A XI Agosto 1547”, with modern spelling in: LEYDI, *Un cremonese del Cinquecento*, op. cit., p. 134.

<sup>liiii</sup> ASM, *RCS*, s. XXII, Mandati, r. 7 (3 January 1547–19 April 1548), sheet 203v. [Mando], “A X] feb[rar].° 1548 Jn Mil[an].”, with modern spelling in: LEYDI, *Un cremonese del Cinquecento*, op. cit., p. 134.

<sup>liix</sup> ASM, *RCS*, s. XXII, Mandati, r. 8 (18 April 1548–26 November 1549), sheet 18. [Mando], “Mediolani die 30 Majj 1548”, with modern spelling in: LEYDI, *Un cremonese del Cinquecento*, op. cit., p. 134.

<sup>lix</sup> ASM, *RCS*, s. XXII, Mandati, r. 8 (18 April 1548–26 November 1549), sheet 63. [Mando], [Milano], “A di X] ott[obr].<sup>e</sup>” [1548], with modern spelling in: LEYDI, *Un cremonese del Cinquecento*, op. cit., p. 134.

<sup>lxi</sup> BEUM, *AC*, b. “Gonzaga, Ferrante I, Duca di Guastalla”, Part V, cc. 5–8. *Al Mag[nifi].<sup>co</sup> Natale Musis mio seg[reta].<sup>ro</sup> et Agente car[iss].<sup>mo</sup>*, “Da Milano á XX di Febr[ar]^ 1549”, in part only and with modern spelling in: G. CAMPORI, *Lettere artistiche inedite. Pubblicate per cura di G. Campori*. Módena, Tipografia dell’Erede Saliani, 1866, p. 49, and LEYDI, *Un cremonese del Cinquecento*, op. cit., p. 135.

- lxii ASM, N, fil. 8 394–8 411 (Crivelli Giovan Antonio q. Francesco 1514–1562), fil. 8 407 (1/8/154817/3/1550), No. 4 710. *Electio*, [Milano], “Jn Nomine D[omi]ni Anno á Natiuitate Eiusde[m] mill[es]imo quing[entesi].<sup>mo</sup> quinquag[esi].<sup>mo</sup> Jndict[i]o.<sup>e</sup> nona die Jouis XXIJ m[en]sis Januarij”, cited in: ASM, *AN, RN*, cart. 1 830 (Rubrica di Crivelli Giovan Antonio q. Francesco C.341:1:), Part 35, sheet [3]. *Torriani Leonello q. Gerardo. Elezione in Abbate dell'Vniversita de Ferrai da Alessandro Coppa q[uonda].<sup>m</sup> Bertino, e Giacomo Vimercati q[uonda].<sup>m</sup> Donato*, [Milano], “22 Ge<sup>^</sup>mi<sup>^</sup> 1550”, cited in: ASM, *IL*, reg. 213 (“Topia–Torricci”), unpagged (Torriani Leonello q. Gerardo sub notaio Crivelli Gio[va].<sup>n</sup> Ant[oni].<sup>o</sup> q. F[rances].<sup>co</sup>). [Acto], [Milano], 1550. 22. *Gen[na]i.<sup>o</sup> Elez[i]o.<sup>e</sup> in Ab[ba].<sup>te</sup> dell'univ[ers]i.<sup>ta</sup> de' Ferrai da Aless[and].<sup>ro</sup> Coppa q. Bertino e Giac[om].<sup>o</sup> Vimercati q. Donato 4.710*, and: LEYDI, *Un cremonese del Cinquecento*, op. cit., p. 138.
- lxiii ASM, N, fil. 8 775–8 783 (Allegranza Dionigi q. Ambrogio 21/12/1517–1/12/1559), record *infra* present fil. 8 780 and 8 781 (to 17/9/1531 and 1/6/1551), disappeared prior to 1939, cited in: ASM, *AN, RN*, cart. 137 (Rubrica di Allegranza Dionigi q. Ambrogio C.324:1:), unpagged. *Convenzioni tra Giacomo Toriani q.[uondam] Girardo, e Gio. Dom[en]ico Bacilerio di Ferrara q. Sigismondo*, [Milano], “1550 23 Maggio”, cited only in: LEYDI, *Un cremonese del Cinquecento*, op. cit., p. 152, note 82.
- lxiv ASCM, *BT*, cod. 1 824 (*Apocalypsis Mediolanensis*), s. 811. [*Rogito del notario Dionigi Allegranza*], [Milán], 23 May 1550, lost in the 1943 bombings, cited in: *Appunti e notizie*, “Archivio Storico Lombardo” [Milano] s. III, XXVII (1900), Vol. XIII, Part XXV, pp. 201–202, aquí p. 202, and: LEYDI, *Un cremonese del Cinquecento*, op. cit., p. 138.
- lxv ASM, *RCS*, s. XXII, Mandati, r. 9 (19 November 1549–13 April 1552), s. 102 and v. [Mando], “Dat[um] M[edio]l[an]i Die XIJ aug[ust]i 1550”, with modern spelling in: LEYDI, *Un cremonese del Cinquecento*, op. cit., p. 136.
- lxvi ASM, *RCS*, s. XXII, Mandati, r. 9 (19 November 1549–13 April 1552), s. 117. [Mando], [Milano], “Alli IJ ott[obr].<sup>e</sup> 1550”, with modern spelling in: LEYDI, *Un cremonese del Cinquecento*, op. cit., p. 137.
- lxvii ASM, N, fil. 10 759–10 790 (Carcani Giacomo Antonio q. Francesco 31/1/1533–25/10/1571), fil. 10 768 (11/4/1550–8/5/1551), No. 1 755. *Jnuest[iti] simplex*, [Milano], “Jn Nomine d[omi]ni 1550 Jndictione 9 die lune decimo mensis 9bris”, cited in: ASM, *IL*, reg. 213 (“Topia–Torricci”), unpagged. (Torriani Leonello q. Gerardo sub notaio Crivelli Gio[va].<sup>n</sup> Ant[oni].<sup>o</sup> q. F[rances].<sup>co</sup>). [Acto], [Milano], 1550. 10. *9<sup>-br</sup>ie Jn[uestitur].<sup>a</sup> V. Bramb[il].<sup>la</sup> fr[at]elli 1.755*, and: LEYDI, *Un cremonese del Cinquecento*, op. cit., p. 138.
- lxviii ASM, N, fil. 10 759–10 790 (Carcani Giacomo Antonio q. Francesco 31/1/1533–25/10/1571), fil. 10.768 (11/4/1550–8/5/1551), No. 2 826. *Confessio*, [Milano], “Jn Nomine d[omi]ni anno a Natiuitate eiusdem millesimo quingen[tesim].<sup>o</sup> quinquagesimo primo Jndictione nona die veneris XIIJ mensis feb[rua]rij”, cited in: ASM, *IL*, reg. 213 (“Topia–Torricci”), unpagged. (Torriani Leonello q. Gerardo sub notaio Crivelli Gio[va].<sup>n</sup> Ant[oni].<sup>o</sup> q. F[rances].<sup>co</sup>). [Acto], [Milano], 1551. 13. *Feb[ra]i.<sup>o</sup> Pag[amen].<sup>to</sup> V. Med[er].<sup>mi</sup> 2 826*, and LEYDI, *Un cremonese del Cinquecento*, op. cit., p. 138, note 40.
- lxix ASM, *RCS*, s. XXII, Mandati, r. 9 (19 November 1549–13 April 1552), sheet 130v. [Mando], “Alli XXIJ nouembre 1550 in m[i]l[an]o”, cited in: Leydi, *Un cremonese del Cinquecento*, cit., p. 137, note 34.
- lxx ASM, *RCS*, s. XXII, Mandati, r. 9 (19 November 1549–13 April 1552), sheet 175v. [Mando], “Alli XX Maggio [1551] Jn M[i]l[an]o”, cited in: Leydi, *Un cremonese del Cinquecento*, cit., p. 140, note 45.
- lxxi ASCR, C, *MJBA*, Vol. X (1437–1659), doc. 149. [Diploma], “Dat[um] in Oppido ffiniponte Comitatus Tyrolis, Die septimum mensis Martij, Anno Domini Millesimo Quingentesimo Quinquagesimo secundo”, and [Decreto], “Dat[um] Mediolani Die Septimo Aprilis, Anno Domini Millesimo Quingentesimo Quinquagesimo Secundo”.
- lxxii RBM, *CCG*, cod. II – 2.270. *Al Jll[ustriss]i.<sup>m</sup> et R[euerendiss]i.<sup>m</sup> Mons[igno].<sup>r</sup> d'Aras Pres[ident].<sup>e</sup> del Consiglio di Sua Maesta mio S[ignor].<sup>e</sup> et Patrone osseru[andissim].<sup>o</sup>*; “Data Mil[an].<sup>o</sup> 1552 il 30 di Marzo”, con grafia moderna en: E. Plon, *Leone Leoni sculpteur de Charles–Quint et Pompeo Leoni sculpteur de Philippe II par Eugene Plon*, Paris, Librame Plon E. Plon, Nourrit et C.<sup>1e</sup> Imprimeurs– Éditeurs, 1887, pp. 367–368, No. 35.
- lxxiii ASM, *N*, files stolen prior to 1939 (Rozzi Battista q. Antonio 1512–8/1/1558 and 11/6/1559–1568), residua fil. 14 845 (9/1/1558–12/6/1559), cited in: ASM, *AN, RN*, cart. 4 263 (Rubrica di Rozzi Battista q. Antonio C.405:3:), unpagged *Ven[diti].<sup>o</sup> facta p[er]*

*Spect[abilem] D[omi]n[u]m Bapt[ist]am de mazenta D[omi]no Janello de turrianis Cr[e]m[onens]*, allegata la *Jnuest[itur].<sup>a</sup> libel[lari].<sup>a</sup> S[upra]s[crip]tum D[omi]n[u]m Bapt[ist]am Jn S[upra]s[crip]tum D[omi]n[u]m Joanellu[m]*, [Milano], “1552 de[ce]mbris 6 S[upra]s[crip]ti”, cited in: Leydi, *Un cremonese del Cinquecento*, cit., p. 152, note 82.

<sup>lxxxiv</sup> ASM, RCS, s. I, Privilegi, r. 8 (25 April 1551–6 June 1554), s. 1. *M[agist].<sup>r</sup> Janello Toriano*, “Dat[a] en el Campo sobre Metz de lorena, a vltimo de Xbre 1552”, sólo cited in: Leydi, *Un cremonese del Cinquecento*, cit., p. 142, note 50.

<sup>lxxxv</sup> ASM, RCS, s. XXII, Mandati, r. 10 (15 April 1552–10 June 1555), s. 50. [Mando], “Allo vlt[im].<sup>o</sup> Febr[ar].<sup>o</sup> 1553, in Casal”, cited only in: LEYDI, *Un cremonese del Cinquecento*, op. cit., p. 143, note 54.

<sup>lxxxvi</sup> ASM, RCS, s. XXII, Mandati, r. 10 (15 April 1552–10 June 1555), sheets 54 and v. [Mando], “Dat[a] in Casale 23 Martij 1553”, cited only in: LEYDI, *Un cremonese del Cinquecento*, op. cit., p. 142, note 50.

<sup>lxxxvii</sup> ASM, CS, b. 166, Part “16–31 August 1553”. *All’Ill[ustrissij].<sup>m</sup> et Ecc[ellentissij].<sup>m</sup> S[igno].<sup>r</sup> mio S[igno].<sup>r</sup> osser[ua]ndissij.<sup>m</sup> Jl S[igno].<sup>r</sup> Don Fernando Gonzaga Principe di Molfetta Cap[it]an].<sup>o</sup> g[e]n[er]ale et luog[oten]en].<sup>te</sup> di Sua M[ae]s].<sup>ta</sup> Ces[are].<sup>a</sup> in Jtalia*, “De M[i]ll[an]o allj XXIJ de agosto 1553”, cited in: Leydi, *Un cremonese del Cinquecento*, cit., p. 144, note 56.

<sup>lxxxviii</sup> ASM, CS, b. 166, Part “16–31 August 1553”. *Al Pres[ident].<sup>e</sup> Crasso*, “Al campo Ces[are].<sup>o</sup> a Monteferr[ato] Jl 25 di Agosto 1553”, cited in: Leydi, *Un cremonese del Cinquecento*, cit., p. 144, note 56.

<sup>lxxxix</sup> ASM, RCS, s. XXII, Mandati, r. 10 (15 April 1552–10 June 1555), sheet 88. [Mando], “A Boteghera a 26 de Agosto” [1553].

<sup>lxxx</sup> ASM, RCS, s. XXII, Mandati, r. 10 (15 April 1552–10 June 1555), sheet 125. [Mando], “Dat[a] Jn Casale alli 21 Genaro 1554”, cited only in: Leydi, *Un cremonese del Cinquecento*, cit., p. 143, note 54.

<sup>lxxxxi</sup> ASM, CS, b. 177, Part “1–15 February 1554”. *M[agnifi].<sup>c</sup> n[ost]ro et Jmperij Sacri fideli dilecto Fran[ces].<sup>c</sup> Crasso p[re]sidi intratar[um] ordinar[um] Status m[edio]ll[an]i*, “Dat[a] en Bruxellas á XIIJ de Hebrero M.D.LIIJ”, in part only and with modern spelling in: Leydi, *Un cremonese del Cinquecento*, cit., p. 144, note 57.

<sup>lxxxii</sup> ASM, CS, b. 178, Part “16–28 February / 1–10 March 1554”. *All’Ill[ustrissij].<sup>mo</sup> et Ecc[ellentissij].<sup>mo</sup> Sig[no].<sup>r</sup> Jl Sig[no].<sup>r</sup> Don Ferante Gonzagha Cap[it]an].<sup>o</sup> g[e]n[er]ale di Sua M[ae]s].<sup>ta</sup> Ces[are].<sup>a</sup> in Jtalia, et luogoten[en]te nel Stato di M[i]ll[an]o mio S[igno].<sup>r</sup> osser[ua]ndissij.<sup>mo</sup>*, “Di M[i]ll[an]o alli XXIIJ<sup>o</sup> febraro M.D.LIIJ”, in part only and with modern spelling in: Leydi, *Un cremonese del Cinquecento*, cit., p. 144.

<sup>lxxxiii</sup> ASM, CS, b. 178, Part “16–28 February / 1–10 March 1554”. *Al Pres[iden].<sup>te</sup> Crasso*, “Di Asti á 27 di Feb[rar] 1554”, in part only and with modern spelling in: Leydi, *Un cremonese del Cinquecento*, cit., p. 144 and note 57.

<sup>lxxxiv</sup> RBM, CCG, cod. II – 2.270, sheet 244. [*Carta de Marco Antonio Patanella a Antoine Perrenot de Granvelle*], Milán, 3 March 1554, in part only and with modern spelling in: C. GREPPI (ec.), *Lettere di artisti italiani ad Antonio Perrenot di Granvelle. Tiziano, Giovan Battista Mantovano, Primaticcio, Giovanni Paolo Poggini, ed altri. Appendice documenti tizianeschi inediti tratti dall’Archivio Generale di Simancas*. Madrid, Istituto Italiano di Cultura, 1977, p. 83.

<sup>lxxxv</sup> ASM, DR, b. 7 (1554–1555). [*Camicia vuota*], “1555. 3. 8bre”, cited in: LEYDI, *Un cremonese del Cinquecento*, op. cit., p. 145, note 60.

<sup>lxxxvi</sup> ASM, RCS, s. XXII, Mandati, r. 11 (8 July 1555–13 July 1558), sheets 2–3 v. [*Carta con mando*], “dat[a] en Bruselas á XXIX de deziembre MDLV” and “Datum in Saluzo á X di febr[ar] 1556”, in part only and with modern spelling in: LEYDI, *Un cremonese del Cinquecento*, op. cit., p. 145, note 62, and p. 152, note 86.

<sup>lxxxvii</sup> ASM, RCS, s. XXII, Mandati, r. 11 (8 July 1555–13 July 1558), s. 1. [Mando], “1556. die XV Genaro M[edio]ll[an]i”.

<sup>lxxxviii</sup> ASM, RCS, s. XXII, Mandati, r. 11 (8 July 1555–13 July 1558), s. 1. [Mando], “1556. die XVIJ Januarij M[edio]ll[an]i”.

<sup>lxxxix</sup> ASM, N, files stolen prior to 1939 (Rozzi Battista q. Antonio 1512–8/1/1558 and 11/6/1559–1568), rest sht 14 845 (9/1/1558–12/6/1559), notary public record cited in: ASM, AN, RN, cart. 4 263 (Rubrica di Rozzi Battista q. Antonio C.405:3:), unpagged *Ven[diti] facta p[er] Spect. D[omi]n[u]m Bapt[ist]am magentam D[omi]no Janello de turrianis*

*Cr[em]onensij*, [Milano], “1556 Januarij Die S[upra]s[crip]to” [“Die X S[upra]s[crip]ti”], cited only in: LEYDI, *Un cremonese del Cinquecento*, op. cit., p. 152.

<sup>xc</sup> BNM, M, caja 7.906, No. 124. [*Carta de Giovanni Battista Castaldo a Antoine Perrenot de Granvelle*], “da milano a XII de febr[ar]o 1556”, cited in: A. PÉREZ de TUDELA, *Algunas notas sobre el gusto de Felipe II por la escultura en su juventud a la luz de nuevas cartas entre el obispo de Arrás y Leone Leoni*, “Archivo Español de Arte” LXXIII (2000), No. 291, pp. 249–266, here p. 251, note 11.

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<sup>xciv</sup> ASP, *ES*, b. 23, Part 18 (Leoni, Leone), No. 24. *Al Jll[ustrissij].<sup>m</sup> Et Ecc[ellentissij].<sup>m</sup> S.[ignore] Mio oss[er]uandissij.<sup>m</sup> il S[ign].<sup>r</sup> Don Ferando Gonzaga etc. Mantoua / 56 – leone Aretino p[rim].<sup>o</sup> di Ag[ost].<sup>o</sup> che la medaglia di V.[o]stra E.[cellenza] e piacciuta a tutti infinitam[en].<sup>te</sup>, et che Arras ne ha uoluto la copia – De la mala uolu[n]ta di Gianello et degli altri – si duol che l'Imp[erato].<sup>re</sup> lo uuol condur in Jspagna*, “Da Bruseles 1556 il p[rim].<sup>o</sup> Agosto”, with modern spelling in: RONCHINI, *Leone Leoni*, op. cit., pp. 37–38, note XXII, cited in: LEYDI, *Un cremonese del Cinquecento*, op. cit., p. 128, note 4, and p. 137, note 37.

<sup>xcv</sup> ASP, *ES*, b. 23, Part 18 (Leoni, Leone), No. 29. *A leone Aretino, “56 16 di Ag[ost].<sup>o</sup>”*, con grafía moderna en: PLON, *Leone Leoni*, op. cit., p. 379, note 59, cited only in: LEYDI, *Un cremonese del Cinquecento*, op. cit., p. 137, note 37.

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<sup>xcvii</sup> L. de la ESCOSURA y MORROGH, *El Artificio de Juanelo y el Puente de Julio César por Don Luis de la Escosura y Morrogh ingeniero de minas. Memoria publicada por la Real Academia de Ciencias Exactas, Físicas y Naturales de Madrid*. Madrid, Imprenta de Don Luis Aguado, 1888 [“Memorias de la Real Academia de Ciencias Exactas Físicas y Naturales de Madrid”, XIII (1888), Part 2, pp. 1–113], pp. 53–59.

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