A proposal for an ideal life: Domestic architecture and social organization in *Filarete's Libro Architettonico*

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Abstract
During the Renaissance period, the search for an ideal life, ideal society and ideal individual became the core components of the humanist vision of antiquity. Italian Renaissance period architects pursued their search for the "ideal city", which was the clear representation of an ideal life, both in theoretical narratives and in architectural practice. Antonio di Pietro Averlino, known as Filarete (c.1400-69) created the ideal city "*Sforzinda*" dedicated to his long-term patron, the Duke of Milan, Francesco Sforza (1401-66), in his treatise written between 1461-64. Firstly, the study focuses on the ideal city concept manifested both in the theoretical and practical aspects highlighting Filarete's *Sforzinda* and its main characteristics in the framework of Renaissance treatises. Filarete's depiction of ideal architectural orders by their "quality" gives insight into his portrayal of domestic architecture. The study aims to point out analytically how Filarete aligns domestic architecture with the social stratification by *qualità* and *decorum* principles adapted by the Renaissance architects following the Vitruvian tradition: the architectural characteristics as well as the decoration of the houses that reflect the social rank of the owners and their role in the society in the context of the 15th century Italy. Inspired by Antiquity, Filarete's approach to domestic architecture is thoroughly discussed while taking into consideration the reflection of contemporary Renaissance practices in his designs. The study will seek to re-read Filarete's treatise through domestic architecture which has the potential to evaluate the social stratification of the Renaissance.

Keywords
Architectural treatises, Domestic architecture, Filarete, Renaissance, Social stratification.

1. Introduction

"../I told you that it is the architect's duty to conceive the building with him who wishes to build. I have already conceived this city with my lord and have examined it many, many times with him, thought it about it myself, and decided on it with him. Then I gave birth to it, that is I made a line drawing of it for him [showing] the foundations and he was pleased…/ In this way anyone who reads this book will see and understand the city with its buildings measured and proportioned according to their necessary quality, form and modes and in relief." (Filarete, Book II, fol. 11v).

In the *Quattrocento*, the search for an ideal life, ideal society, and ideal individual became the core components of humanist vision of antiquity. The image of the urban space started to change due to the increasingly prominent ruling class in the society, and artists and architects were the actors in meeting the new needs of this new elite. Harmony, human proportions, and symmetry were used as the prominent architectural features during this change in the urban experience. In this framework, the priority given to the remaking of a new and rational city is remarkable. Italian Renaissance period architects pursued their search for the "ideal city", which was the clear representation of an ideal life, both in theoretical narratives and in architectural practices. As Martines (1988) pointed out, the first architectural treatises in the 15th century were the significant tools to show the architects' conception of "urban space as a totality" and the concretization of ideal cities originating from a wish to control.

The first text on architectural theory in the 15th century was Alberti's (1404-72) *"De re Aedificatoria"*, presented to Pope Nicholas V in 1452, in which the ideal city was described as a perfect organism for a civilized and ideal life acquired through the ideal architect. Attributing the most importance and dignity to the city, Alberti proposed a set of rules applicable to all cities (Choay, 1997). After Alberti, his contemporary Florentine sculptor, medalist and architect Antonio di Pietro Averlino-

who used, later on, the name of Filarete (c.1400-69) - lover of virtue-[1] contributed to the notion of "ideal city" in his complex treatise. Leonardo da Vinci (1452-1519) created an ideal city set upon two levels- the upper one was dedicated to the upper class of the society whereas the lower one was reserved for the production related activities of the lower classes in his set of notebooks - *Codex Atlanticus.*

In addition to ideal city imaginations in theoretical works, "ideal squares" were portrayed as a representation of an ideal city during Renaissance. The *Urbino Panoramas*, dating back to the second half of the 15th century, represent three ideal squares of ideal cities based on mathematical principles and ideal human proportions (Krautheimer, 1994). Architects became the master of the organization of the new cities and thus the ideal city concepts in architectural practice can be noted in the transformation of small Italian cities such as Pienza, Urbino and Mantua according to the new cultural *gusto* with the financial and intellectual help of the ruling elite (Balchin, 2008).

The transformation in the urban space reflected the upper social class demand and the Renaissance treatises on architecture were set upon a strict hierarchy in the society, accordingly they were "class-conscious" as defined by Martines (1988, 273). From this framework sprang the fictional ideal city named *Sforzinda* with proportioned buildings according to their necessary qualities in Filarete's treatise as indicated by him in the opening citation. The *decorum* principle which was articulated in Vitruvius's treatise echoed in Alberti's treatise and manifested itself as *"qualità"* in Filarete's architectural treatise.[2] The architectural orders and the construction of *Sforzinda* with its buildings and its social organization were based on a hierarchical system, for which he chose to use the term *"qualità"*.

It is possible to observe the most obvious traces of social, cultural, and economic changes in urban life and social structure in domestic architecture. Domestic architecture designed in accordance with the social stratification not only reflected the social structure

on architecture, but also revealed the social order and the imagined lifestyle by the Renaissance architects. Thereby, this study aims to analyze the domestic architecture in the fictional ideal city – *Sforzinda*- in Filarete's treatise with its decorative elements and social organization in the social, cultural and political context of the fifteenth century Italy. Through an analytical examination of the text and illustrations, this study aims to contribute to the history of domestic architecture in the Renaissance period by interpreting Filarete's domestic architecture in relation with the *qualità* principle while discussing his interpretation of antiquity into his era.

2. Filarete and his "*Libro Architettonico*" (1461-64)

Filarete started working in Florence, probably as a goldsmith and later in Rome as a sculptor, where he exhibited his innovative style in the prestigious commission of the bronze doors of old Saint Peter's Basilica at the court of Pope Eugene IV between 1433-1445 (Hub, 2012; Glass, 2012; Glass, 2013). In 1451, Filarete started to work under the patronage of Duke of Milan, Francesco Sforza in his prestigious projects as *Duomo's* dome, *Castello Sforzesco* and *Ospedale Maggiore* in which he aimed to consolidate his influence. However, his Florentine architectural style did not gain widespread acceptance during his work under the Duke for fifteen years, neither in Milan, nor in Northern Italy where late Medieval style still dominated. Filarete could not complete any of these projects because of conflicts between the local aristocracy, local master builders and craftsmen (Welch, 1995). In the first years of the 1460s when his involvement with Milanese projects arrived at a breaking point due to the cultural and formative differences between him and Lombard architects, he dedicated himself to his architectural treatise, which he referred as "*Libro Architettonico*" (Giordano, 1998).

Filarete's treatise was never printed but circulated as manuscripts. Filarete dedicated the first edition of his treatise to his patron, Duke Sforza. The second version of the treatise that reached today in its entirety is the copy (codex *Magliabecchianus)* dedicated to Piero de' Medici in 1464 which became part of his library (Spencer, 1965). Significantly, the XXVth Book provides a comprehensive outlook on Piero de' Medici's study, in his words "*studietto*" in the *Palazzo Medici*, Florence (Enginsoy Ekinci, 2006, 123-124). Furthermore, the XXVth Book includes the architectural commissions of Cosimo de' Medici and his sons Piero and Giovanni whose completion dated to 31 January 1464 (Spencer, 1965).

Filarete's treatise shows many differences from Alberti's treatise which is composed after the Vitruvian model in both form and content. The chapters, referred as separate books *(libro),* are untitled except for Book III, titled *"De aedificatione urbis"*. This particular title may indicate the true aim and essence of the treatise which is "to construct a new city". The treatise starts by Filarete's desire to write a book, his own works and then includes the structure of the treatise in three parts: the first part including the origin of measure, the building and its sources and the qualities of a good architect, the second part including the construction of a city with its buildings, squares and streets and the third part including the reconstruction of buildings according to ancient architecture (Filarete, Book I, fol. 2r). Filarete's non-systematic narrative is found throughout the books, in which topics often overlap or interlace with each other. The construction of *Sforzinda* starts in Book IV, even though the city is mentioned in Book II, and it lasts until the end of Book XII. In Book XII, a new and suitable site is found for the harbor city after site exploration process. Interestingly, the "Golden Book" (*Libro d'oro),* which contains the history of King Zogalia (an anagram for Duke's son Galeazzo Maria Sforza) of an ancient town called *Plusiapolis* ("rich city" in Greek) is discovered during the excavation (Whittemore, 2009). The content of the Golden Book, written in Greek, is decoded thanks to a translator whose name is an anagram of Filarete's Greek humanist friend Francesco Filelfo (1398-1481).[3] Accordingly, it is discovered that the book was written for a future, virtuous king. So, the dis-

covery of the Golden Book with rich architectural details becomes a crucial point in the treatise and a reference for the reconstruction of *Plusiapolis*. The stages of construction of *Sforzinda* and *Plusiapolis* are told in an interwoven way until Book XXII. Filarete clearly points out that he wants to take ancient Greek architecture as reference in the physical context of Lombardy, where Gothic was still the predominant style (Balchin, 2008). During the interrelated construction of *Sforzinda* and *Plusiapolis*, the social, economic, and educational organization of the "new city" are outlined during the narrative.

Besides, Filarete used vulgar Italian in dialogue form in his treatise as opposed to Alberti who wrote in Ciceronian Latin. The stages of construction of the perfectly geometrical city dedicated to his patron, Francesco Sforza are depicted in detail through meticulously written dialogues between Sforza, the Duchess and his son, Galeazzo Sforza. As Onians (1971, 104-114) pointed out, the narrative dialogue form of the treatise could be associated with Plato's group of dialogues: "*Timaeus*", "*Critias*" and "*Laws*".

In addition to the imaginative narrative, illustrations were used as indispensable part of architectural creation and also as a means of enticing his patron. Filarete utilized illustrations to express his designs by saying that "in architectural matters it is difficult to make oneself without resorting to drawings" (Book VI, fol. 40v; Carpo, 2001) unlike Alberti who did not include illustrations in his normative treatise. Moreover, Filarete expressed his thought process and architectural creation with *fantasia* and the product as *invenzione*. Interestingly, he also adopted an analogy between procreation (architect as the mother and patron as the father) and architectural creation (Enginsoy Ekinci, 2013). The architectural creation starts by producing a concept in the architect's mind, and then the transferring of the concept into architectural drawing is expressed as giving birth. A representation with a three-dimensional model along with illustrations is told to be the next step followed by the actual construction of the new city (Book II, fol. 11v). Even though the illustrations tend to display more the "*fantasia*" of the architect, Filarete's illustrated treatise has a significant importance in the historical progression of the use of illustrations in later architectural treatises of Renaissance theoreticians such as Francesco di Giorgio (1439-1502), Serlio (1475-1554) and Palladio (1508-80).[4]

Furthermore, throughout the treatise, Filarete tries to explain his architectural style and legitimize it in the eyes of his patron. The Gothic style is defined as "modern style" *(modo moderno)* which needs to be avoided whereas the "ancient style" (*modo antico*) is promoted during the construction of *Sforzinda* and *Plusiapolis* in the dialogues between the Duke, Duchess, and their son. So remarkably, Filarete appeared as the first Renaissance architect to disapprove Gothic style by expressing that it is necessary to return to the forms of antiquity: "../ I seem to see again the noble buildings that were once in Rome and those that we read were in Egypt. It seems to me that I have been reborn on seeing those noble buildings" (Book XIII, fol. 100r). The use of "*rinascere a vedere*" phrase clearly indicates the rebirth of ancient buildings in Filarete's time (Hub, 2011).

3. The layout of *Sforzinda*

In the treatise, after establishing the narrative of the origin of the architecture, human proportions, the conception of the building and the responsibilities of the architect and the patron, Filarete presented the so-called "*Averliano* design": the drawing of fictional city named *Sforzinda* for the Lord which implicitly stands for his patron- Francesco Sforza.

An ideal site noted as salubrious and fertile in the vicinity of *Inda* valley where *Sforzindo* river flows was chosen for the ideal city (Book II, fol. 13v). After choosing the best site, providing the necessary materials and organization of all craftsmen and masters, Filarete depicted the founding ceremony of *Sforzinda* in a very detailed way in Book IV. The founding ceremony took place on 15th of April 1460 with the presence of Sforza family, eight notable men and the architect himself (Book IV, fol. 24v-25r). As anoth-

er example of Filarete's multi-layered storytelling, he described a "bronze book" *(libro bronzo),* a book within a book, including the "records of this our age and the deeds of worthy men", of which his prestigious works such as the bronze doors of Saint Peter's Basilica in Rome, *Ospedale Maggiore* in Milan, the Church of Bergamo are listed, to be placed in the foundation (Book IV, fol. 25v). In addition to this list of his own works, Filarete mentioned writing another bronze book, which could easily be interpreted as *"Libro Architettonico".* This all imaginary and very detailed founding ceremony stresses Filarete's clear intent of writing a treatise to leave his immortal mark in accordance with the idea of fame *(fama)*[5] in Renaissance, and also to glorify his great patron, Duke Sforza. An explicit example of the importance given to fame can be noted during the description of the responsibilities of the architect and the patron where Filarete expressed that there were two ends for an architect to create a building, which were the purpose of utility and the fame that the architect would gain (Book II, fol. 8r).

The city of *Sforzinda* has a stellar plan composed of two overlapping squares. As Spencer (1965, 25) stated, the star-city shape of *Sforzinda* does not have a progenitor. Although the stellar form is used for the first time for an ideal city, circular form adapted by Filarete reflected Milan's circular plan with radial streets in the chronicle of Fiamma (ca. 1330) (Günther, 2009, 60; Whittemore, 2009, 55). In parallel with Alberti's circular and polygonal plan schemes for cities, of which the polygonal scheme is put forward for security reasons, Filarete's plan is based on Renaissance urban planning principles with geometric forms and symmetry (Alberti, Book IV, 1988). As a result of the new military technologies in the 15th century, the polygonal scheme for ideal cities was favored by many Renaissance architects such as Francesco di Giorgio who experimented with its different variations in his treatises on architecture (Merrill, 2013). Throughout the Renaissance, fortress-citadel was taken as a physical model for an ideal city, of which Palmanova, commissioned by Marc'Antonio Barbaro against Turkish threat, served as a realized ideal city (Pollak, 2008; Howard, 2013).

Sforzinda's general layout prompts the thought of a castle, therefore a fortress-city in which the octagonal form represents the fortification of the city, and the circular form represents the moat. The defense function of the city is highlighted by the star-shaped perimeter walls, circular towers at the intersection points of the squares, and the circular moat surrounding the city. As Whittemore (2009, 52) pointed out the idealized geometry of the city can be interpreted as a reflection of architecture reinforcing "seigneurial rule", the existing political structure in Milan. It is also considered that the central plan of *Sforzinda* and its central-plan churches played an influential role on the Renaissance architects such as Bramante and Da Vinci. Spencer (1958, 14-16) pointed out influence on Leonardo da Vinci's central-plan churches which can be noted in Da Vinci's notebooks and Bramante's plans for St. Peter's Cathedral.

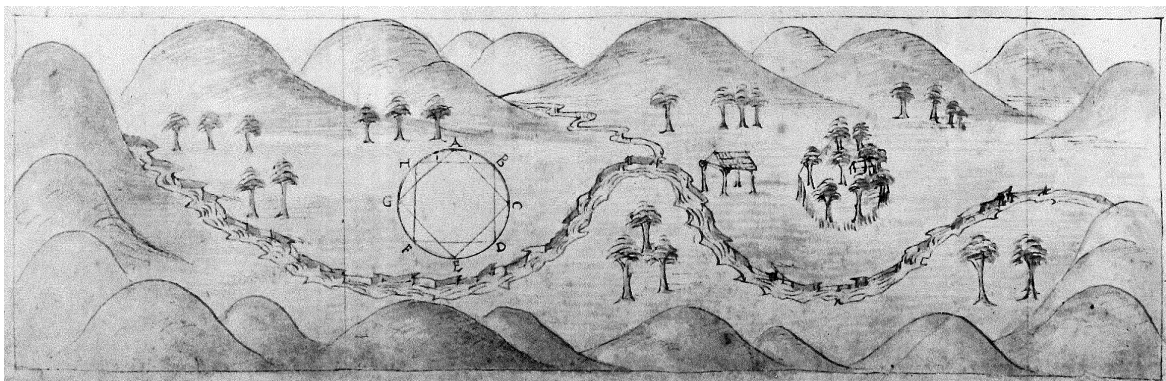In this layout, eight streets and eight canals radiate from the center of the city to the intersection points

Figure 1. *Site of Sforzinda (Filarete, 1965, Book II, fol. 11v).*

of the two squares. Günther (2009) discussed the construction of *Sforzinda* and compared it with the existing conditions in Italian city-states in his article "Society in Filarete's *Libro Architettonico* between Realism, Ideal, Science Fiction and Utopia". The main city square located at the center of *Sforzinda*, surrounded by the Cathedral, the Ducal Palace and the Episcopal Palace, constitutes the "economic, social and spiritual" core. The organization of the main square appears to be the reflection of the hierarchy of power in the ideal city as a concretization of what was common for Milan with the figures of authority and public institutions in the 15th century (Günther, 2009, 59). In the north and south of the main square, the two interrelated market squares include public buildings of *Sforzinda* such as *Palazzo della Ragione, Palazzo del Podesta', Palazzo del Capitano* and the mint, customhouse, magazines, guild houses, the butcher's mall, the prisons house, baths, brothels, etc.

As referred by Garin (1965), the perception of class distinctions in the architectural treatises originated from the interest in ancient texts on political theory by authors such as Aristotle (Politics) and Plato (Republic).[6] Also, Ackerman and Rosenfeld (1989) pointed out that the separation of different classes of society was a common notion during Renaissance in theoretical works in their article "Social Stratification in Renaissance Urban Planning".[7] This notion can be observed in Alberti's two concentric rings of walls to differentiate the noble class from the lower classes of the society. Similarly, in *Sforzinda* the main piazza hosts the palaces of the most noble people of the society such as the Duke and the Archbishop. The guilds are located according to their status; the noble guilds and merchants, bankers and goldsmiths are located close to the main square (Book XX, fol. 163v,164r). As for the social stratification, Filarete designated five social classes in a hierarchical order: poor, artisan, merchant, gentleman, and prince, after Alberti's division of society with the ruler, tyrant ruler, gentleman, and the working classes. A similar kind of social hierarchy, including
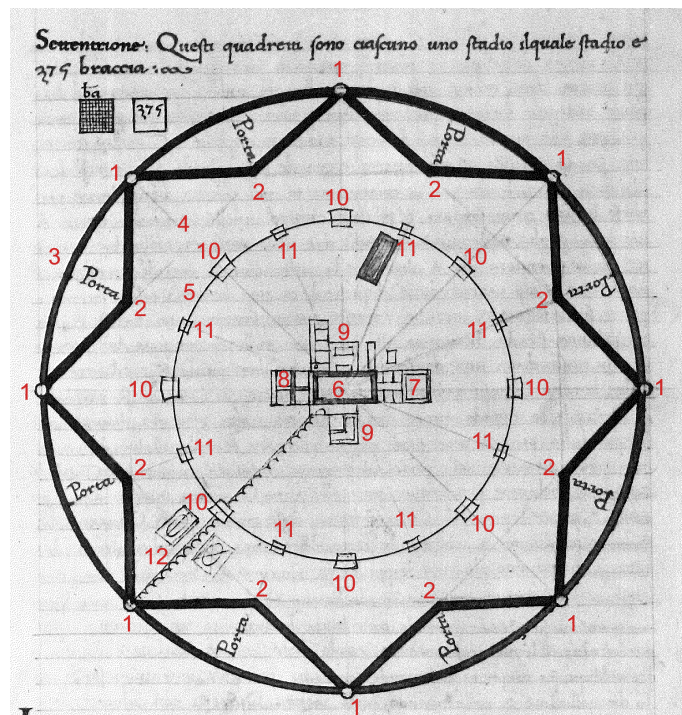

Figure 2. *General Layout of Sforzinda 1. towers, 2. gates of Sforzinda, 3. moat, 4. sixteen roads leading to the city center, 5. Circular road, 6. main square of Sforzinda, 7. Cathedral, 8. Ducal Palace, 9. Market squares, 10. Churches, 11. Secondary market squares, 12. Aqueduct (Filarete, 1965, Book VI, fol.43r, organized by author).*

farmer, artisan, merchant, gentleman, prince and tyrant prince categories, can also be observed in Francesco di Giorgio's treatises (Kruft, 1994).[8] Although the location of the citizens according to their work and social class in the city remain schematic, the reason behind Filarete's separation could be also interpreted as a reflection of Renaissance Italy (Günther, 2009).

In addition, the advice from the King *Zogalia* of the ancient kingdom mentioned in the Golden Book to the prince, lay a clear analogy which points out the social stratification during Renaissance. The King creates a remarkable analogy between a wall made of different stones and a kingdom composed of different social classes:

"A dominion is like a wall made of many kinds of stone…/The large, dressed, exterior stoned that hold up the wall are gentlemen, persons of goodwill, and virtuous men. The columns are the captains and the men at arms. The other stones are the soldiers. The bricks are the people. The fill of the wall is the people of the territory. The skin is the artisans. You can thus

understand that this wall is composed of all different kinds of stones. If any of them are lacking, you can see this would cause great damage to its beauty and use.../So it is necessary for you maintain and preserve all your people according to their quality." (Book XX, fol. 168v,169r)

As evident from the text, the ideal city is composed of different social classes all of whom reside in harmony. Each class has specific roles for serving the society and is associated with the *qualità* – a term applied by Filarete through architectural orders.

4. Ideal architectural orders and the *qualità*

The systematization of the orders in the 15th century was a common notion following Vitruvius's text and ancient ruins (Payne, 1999). Filarete's classification of orders differs from the Vitruvian tradition, which hierarchically includes Doric, Ionic and Corinthian orders, as well as Alberti's classification of Tuscan, Doric, Ionic, Corinthian and Italic orders. Alberti's opinions on the proportional classification of orders point at the Italic order, which is the combination of Ionic and Corinthian orders, as the most preferable (Alberti, 1988, Book VII, VI). Interestingly, Filarete noted only the Doric, Ionic and Corinthian orders, following the Vitruvian tradition, with their measurements derived from the proportions of man: head associated with the capital and body

associated with the shaft of the column. Remarkably, such a formulation made him the first Renaissance theoretician to define anthropometry (Kruft, 1994). Onians (1973) presented a critical analysis on how Filarete formulates a new theory between architecture and man in his article "Filarete and the "qualità" architectural and social". The distinctive feature of Filarete's classification of architectural orders is that he established an intrinsic relationship between the human proportions and architectural orders using a new term – "*qualità*" in architectural context instead of using Vitruvius's *genera* or Alberti's *species* (Onians, 1973, 116).

Although the orders were the same with Vitruvian tradition, his definition of three measures (*misura*) -physical types of men- large, small and medium (Book VIII, fol. 56r) differed in their characteristics. Accordingly, he specified Doric columns as large (*misura grande*), having 9:1 ratio (capital:total height of the column), Corinthian column as medium (*misura mezzana*) having 8:1 ratio and Ionic column as small (*misura piccolo*) having 7:1 ratio. Furthermore, whereas the Doric was described as the least decorated and male order in Vitruvian tradition, it was interpreted as the most ornate and perfect order in Filarete's treatise by relating its origin to Adam (Book I, fol. 3r). Onians (1990, 162-3) suggested that this difference in attributing a new characteristic to Doric order could be associated with his reinterpretation of Vitruvius from a Christian point of view.

In parallel to the intense need for strict rules for a well-defined and organized social hierarchy, Renaissance architects associated the orders with social stratification. Alberti characterized the architectural orders by creating a social model in which the Doric is associated with the working class of architecture while Corinthian is associated with upper-class (Onians, 1990, 154-56). Filarete developed an analogy between the quality of orders and the quality of men in society more explicitly. Accordingly, Doric order was used in buildings with decoration for the upper class of the society *(gentili)*, the

Figure 3. *Classification of architectural orders (Filarete, 1965, Book VIII, fol.57v).*

medium order *(mezzani)* Corinthian (both useful and with adornment) was assigned to the middle class, and the Ionic as the smallest order was assigned to the lowest class of the society *(piu' infimi)* which served the requirements of the lord (Book VIII, fol. 56v). It was also added that the lowest order, Ionic "is used in the buildings in places where the greatest weight is to be supported" representing the idea of the lowest class supporting the needs of the society.

Additionally, an analogy between a person's clothing and the buildings, pointing out that the buildings should have decoration in accordance with the social position of the owner and that a person should dress in conformity with his/her social class, was established in the treatise (Book VII, fol. 48v). This feature makes Filarete the first Renaissance architect to create an analogy between the ornament of a building and the clothing by the *qualità* (Onians, 1973, 128). Filarete, then, adapted this principle of qualities in his classification of domestic architecture in *Sforzinda*.

5. Classification of domestic architecture in *Sforzinda*

Renaissance architects and humanists tried to interpret domestic architecture by pursuing ancient *domus* and villa by means of ancient literature such as Cato's (234-149 BC) *"De Agricultura"*, Varro's (116-27 BC) *"De re Rustica"*, Columella's (4-70 AD) *"De re Rustica"*, Horatius's (65-8 BC) poems on the virtues of the ancient villa, Pliny the Younger's (61-c.113 AD) letters on *Villa Laurentum* and *Villa Tusci* (Burns, 2012). The discovery of *Villa Laurentum* mentioned in the *Epistulae*, the letters of Pliny the Younger (61-c.113 AD), by Guarino (Guarini) Veronese before 1419 gave insight to ancient Roman culture and probably had an impact on villa designs during Renaissance period (Ağır, 2010, 1-2).

As Pagliara (1986, 55) emphasized, Vitruvius's book had a distinct place as one of the primary sources on domestic architecture by providing "the current need for specific and precise rules". Despite the difficulty in transforming this textual material into practice, the *deco-rum* principle which required the design of a house according to the social status of its owner played an important role in Renaissance domestic architecture (Pellachia, 1992). Vitruvius expressed that the houses that belong to different social classes should be designed "under the subject of propriety *(decorum)*" (Book VI, Chp. 5). In addition to the principle of *decorum*, Pellachia (1992, 379) underlined Vitruvius's clear emphasis on the location of atrium in the entry sequence in the town houses and following the peristyle in the country houses. As for the atrium's relation to divisions of the society; atrium was described as a public space that needs to be designed according to the social status of its occupant: "Hence, men of everyday fortune do not need entrance courts *(vestibula)*, *tablina* or *atriums* built in grand style, because such men are more apt to discharge their social obligations by going round to others than to have other come to them." (Vitruvius, Book VI, Chp. 5).

In Alberti's treatise, the house was described as a miniature city with its public and private functions and Vitruvius's concept of *decorum* manifests itself indicated as "the poor will have different requirements from those of the wealthy. For the poor it is necessity that governs the size of the dwelling, whereas the rich are seldom satisfied or able to limit their greed" (Book V, Chp. 14). Alberti differentiated housing types as city and country; however, the city houses are not differentiated according to different social classes. The separation of the noble class and the servants performing production related activities is apparent in his treatise, which could be traced in Filarete's treatise as well. Regarding the significance of atrium, Pellachia (1992, 388) pointed out Alberti's interpretation of atrium as the "bosom of the house" (Book V, Chp. 17) and him being the first Renaissance theoretician to interpret the atrium as a colonnaded courtyard.

In comparison to other 15th century Renaissance architects, Filarete's classification of domestic architecture of *Sforzinda* is the most clear crystallization of the relationship between the social stratification and architecture. Onians (1973) demonstrated the

relationship between *qualità* and man while providing an insight for the domestic architecture. Extending Onians' above-mentioned article on the theme of *qualità*, the paper seeks to use domestic architecture with the spatial composition, proportions, and qualities of orders, as well as decorative elements, as a tool to understand the sociology of the period.

5.1. Ducal palace

The most noble and ornate domestic building described in *Sforzinda* is the Ducal Palace located in the main square, which is designed for the public appearances similar to the Visconti reign and Sforza regime (Günther, 2009, 60-61). The approximate locations of the housing typologies, except for the Ducal Palace and the Archiepiscopal Palace, are not specified, neither in the text nor in the illustrations in the treatise. The Ducal Palace is designed in Doric order in approximately 2:1 ratio (length:width), 330 braccia in length and 160 braccia in width.[9]

The round-arched portico, elevated by six steps, resembles the portico of Brunelleschi's *Ospedale degli Innocenti* although he criticized it for its long staircase while describing *Sforzinda* Hospital in the treatise (Book XI, fol. 80v). The rational and symmetrical façade of the palace with Doric columns on *piano nobile* includes three towers on both corners and one in the middle of the façade imposing the owner's prestige.

The palace is divided into two parts which belong to the Duke and Duchess, though neither in the narrative nor in the drawings of the treatise it is clear which square block belongs to the Duke and which to the Duchess. The palace is divided into two courts with a portico on all sides. Two large porticoed courtyards with fishponds and fountains in the middle are located in the rear part of the palace and the stables are placed at the back of the gardens. The spaces on the basement level are used as service spaces in accordance with Alberti's separation of the levels in domestic architecture.

As for the decoration of the Ducal Palace, the decorative elements are in harmony with the artistic approach of the Renaissance period, which includes the application of mythological and historical figures from the literary works of Dante, Petrarca, and Bocaccio into painting. Filarete emphasized that the Ducal Palace would be honorable with its beautiful floor and vaults decorated with gold stars and planets in blue sky (Book IX, fol. 67r) in conformity with the use of allegories, representative figures and astrological paintings in Renaissance (Burckhardt, 2005).The choice of using gold and ultramarine color obtained from *lapis lazuli*, considered special and precious in 15th century Italy, reflects Filarete's principle of *decorum*, designing in accordance with the social classes. The predominance of fame in Renaissance reveals itself here as Filarete included the paintings of all the astrologers and mathematicians who had contributed to these sciences (Book IX, fol 67r). A detailed list of painters and relief artists is also included which is clearly significant from two perspectives; as a way of promoting the artists who did not use modern style (Gothic) and as the rec-
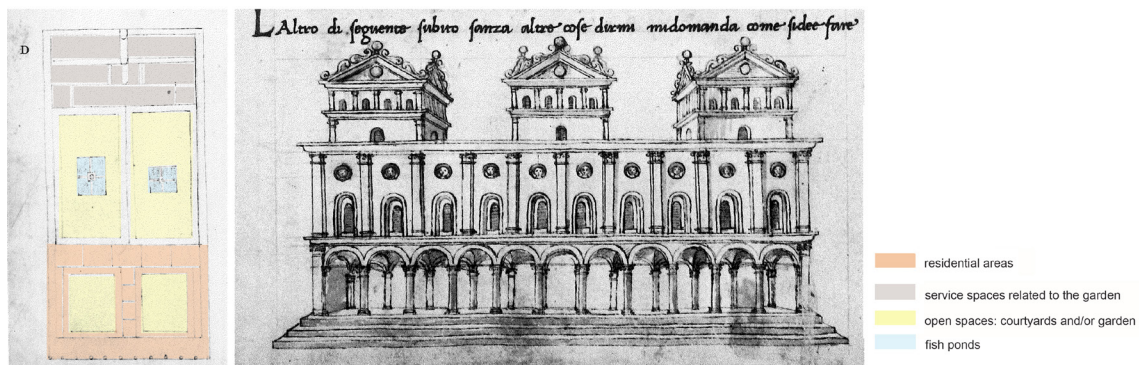

Figure 4. *Spatial organization of the plan and facade of the Ducal Palace (Filarete, 1965, Book VIII, fol. 57v-58v, organized by the author, 2022).*

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ognition of the artist's *genio*.

Another important aspect is the correlation of the noble virtues with architecture: the principle of virtue, tracing Platonic, and Aristotelian doctrines as the link to an ideal society governed by an ideal ruler, is exalted.[10] The four cardinal Aristotelian virtues "Justice", "Temperance", "Prudence" and "Fortitude" are chosen to be painted over the door of the Council Room in the part of the palace that belongs to the Duke. In overall description, the Ducal Palace, which is depicted in Book VIII right after the narrative of the Cathedral and the proportion of orders, is defined by its usefulness and beauty in the treatise.

5.2. The archiepiscopal palace

The Archiepiscopal Palace, built for the archbishop, the canons, and the priests, is located in the main square of the city. The palace is described after the Ducal Palace in Book IX in the narrative showing the significance and the ranking of its owner in the society. The palace is designed in Doric order in 2:1 ratio with a plan of 160x320 br. which shows that Filarete's hierarchy of the proportions rank the archbishop slightly below the Duke and above the gentleman.

The palace which has an entrance from the rear façade of the Cathedral of Sforzinda, is designed as a square form with two gardens on the front and back facades: one for the archbishop and the latter for the canons. The emphasis on the sewer system engaged in the walls and the latrines leading to the aqueducts shows Filarete's concern for sanitation which he applied in the *Ospedale Maggiore* in Milan.

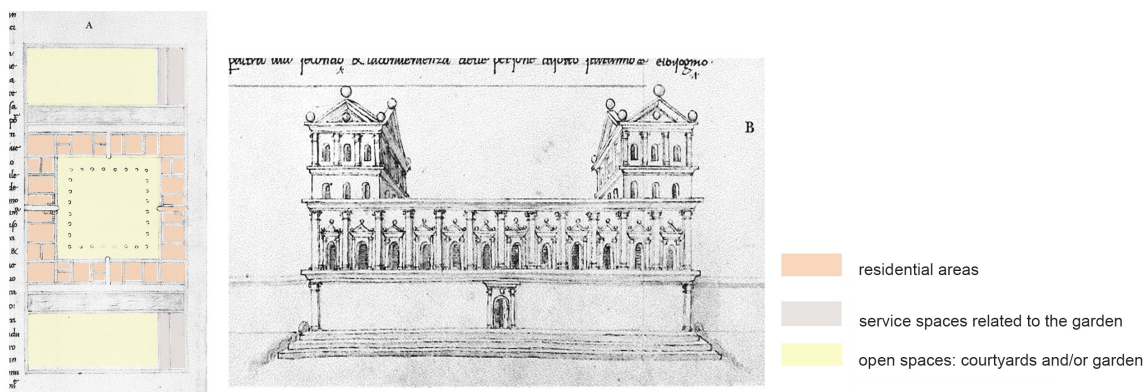Similar to the Ducal Palace, the palace is located on three steps and the

residential areas

service spaces related to the garden

open spaces: courtyards and/or garden

Figure 5. *Spatial organization of the plan and the facade of the Archiepiscopal Palace (Filarete, 1965, Book IX, fol. 66r, organized by the author, 2022).*

residential areas

service spaces relating to the garden
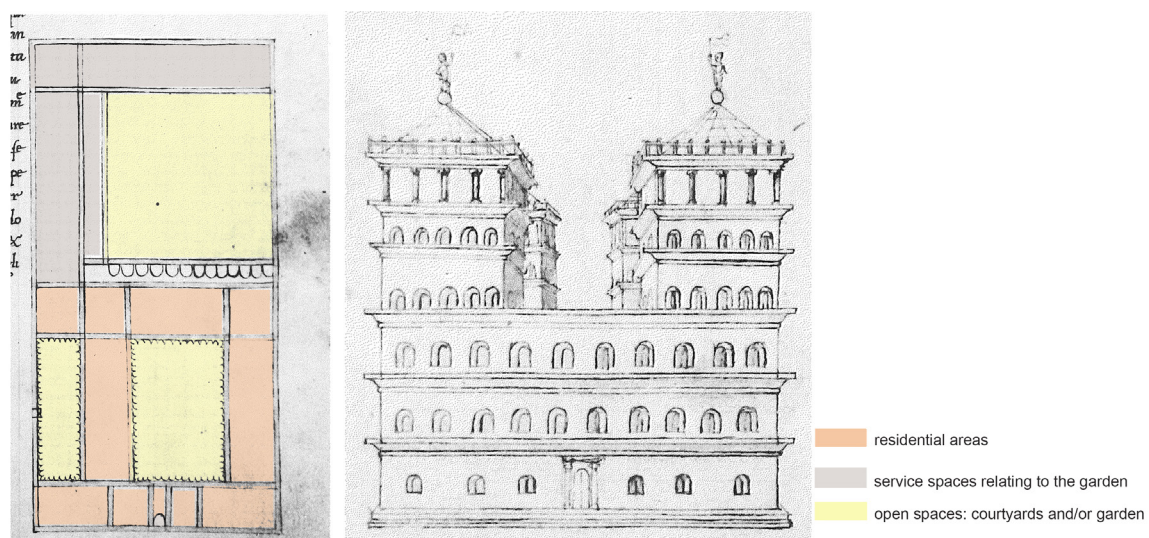
open spaces: courtyards and/or garden

Figure 6. *Spatial organization of the plan and the facade of the Nobleman's House (Filarete, 1965, Book XI, fol. 84r-v, organized by the author, 2022).*

piano nobile is emphasized with adornment and architectural orders. However, Filarete's principle of *decorum* suits his decision of the number of towers: the Archiepiscopal Palace has two towers while the Ducal Palace has three towers. The decoration of the palace is not underlined however, it is described as a "beautiful building" (Book IX, fol. 66v, 67r).

5.3. Nobleman's house

The nobleman's house is described in the narrative after the public buildings of *Sforzinda* such as *Palazzo della Ragione*, *Palazzo del Podesta'*, the market squares, the churches and the hospital in Book XI. The house with the dimensions of 200x100 br. has the quality of Doric order with a proportion of 1:2 in plan. The proportion of nobleman's house is slightly less than the Ducal Palace with Doric order creating a hierarchy within the same order that belongs to different categories of nobility.

The house is accessed through the main entrance in the middle axis of the building. It consists of two square blocks; the front one corresponds to the residential part, while the rear square block corresponds to the garden and stables. As Filarete pointed out, the four towers on the corners serves for greater beauty and provided harmony with the form and quality (Book XI, fol. 84v, 85r). The façade is composed in a rational order and symmetrical layout with round arches, cornices that separate the levels reflecting the ancient style which he referred as "Florentine architectural style". However, the towers located on the corners reflected the functional continuity of medieval architectural tradition in Northern Italy where the corner towers were used as a prestige element in public and private buildings. The overall organization of the façade except its towers resembles contemporary Florentine palaces such as Palazzo Strozzi.

On the ground floor, two porticoed courtyards are designed for the convenience of the house; the left courtyard is designed for the domestic requirements of the house and is surrounded with kitchen, storerooms, and servants' quarters. The large garden at the rear façade of the residential unit is designed with a loggia and includes stables and a wood storage. The corresponding spaces of family quarters and visitors' quarters are not clear as there is an incoherence between the narrative and illustrations. Moreover, a space dedicated to literary *gusto* and defined as a "space for writing, keeping books or other pleasant things" on the *piano nobile* appears especially noteworthy (Book XI, fol. 84v, 85r).

The sanitation is also highlighted providing a sewer system like the Archiepiscopal Palace. Supporting this idea, the attention given to convenience and usefulness can be observed in the forefront whereas the explanations about the façade and decoration of the house are very limited. The nobleman's house is painted with representative figures from noble, ancient stories like the decoration of the Ducal Palace. Although Doric order is used in the Ducal Palace, Archiepiscopal Palace and the nobleman's house, the nobleman's house is described in a hierarchical order under the others, with its elevation from the ground level with two steps, the lack of *piano nobile* and its decorative program.

5.4. Merchant's house

During the Renaissance, the new powerful social status of merchants and bankers sought a lifestyle that was reserved only for the nobility in previous periods, through their palaces which conveyed their social significance (Valtieri, 1988). Appropriately, Filarete classified the merchant's house as the second quality in his codification of orders. Spencer (1965) stated that the house belonging to a second social class should have Corinthian proportions, although it is not stated in the treatise. However, Onians (1973) has pointed out that its dimensions of 50x 150 br. with a proportion of 1:3 does not stand close to Corinthian.

The house is depicted together with the houses of the artisan and the poor man classes in Book XII. The right and left wings attached to the dwelling are designed with loggias which are utilized as the shops and merchandise display. The functions of the residential unit, which is attached to the

courtyard, are organized in a hierarchical way; service functions such as the quarters for servants, kitchens, and storerooms are located on the ground floor, and halls, bedrooms, and guests' quarters are on the first floor.

Similar to the above-mentioned houses, the merchant's house has a large garden at the rear side of the dwelling attached to the stable. Moreover, the house seems to have all the convenience that it needs such as a sewer system, latrines, and fireplaces. However, although as a second-level house, it is defined as "beautiful", the descriptive details of the façade and decorative elements are limited. In general, the house is designed according to its quality with its architectural elements such as corner towers and decoration which shows the merchant's social rank as a class with prestige.

5.5. Architect's house

An impressive narrative embraces the readers during the depiction of the house of the architect[11] who built the city depicted in the Golden Book during the construction of *Plusiapolis* in Book XVIII. It is noteworthy that Filarete portrayed the architect's house supporting the distinction of the "architect" from stone-mason indicated in Alberti's treatise for the first-time during Renaissance (Kruft, 1994).

The house has a rectangular plan with dimensions of 34x102 br. and has the characteristics of Corinthian order used in the design of the merchant house with a ratio of 3:1, one square for the residential unit and two squares for the garden. This classification of the Architect's House enhances the social class of the architect to the merchants' level, above the artisan's (Alberti, 1988).
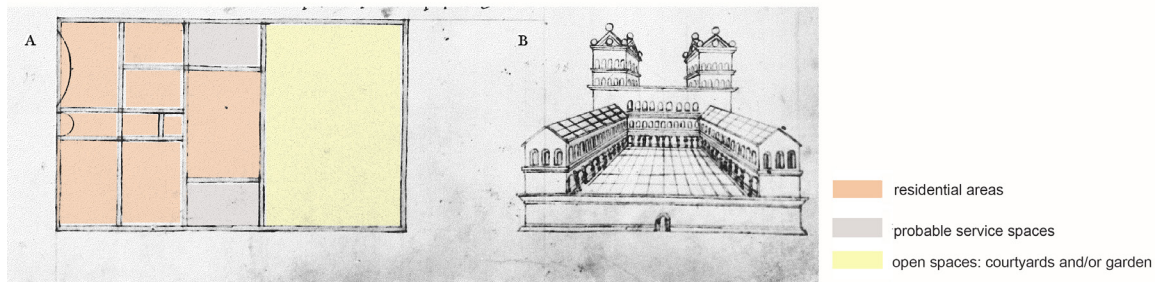

Figure 7. Spatial organization of the plan and facade of the Merchant's House (Filarete, 1965, Book XII, fol. 86r, organized by the author, 2022).
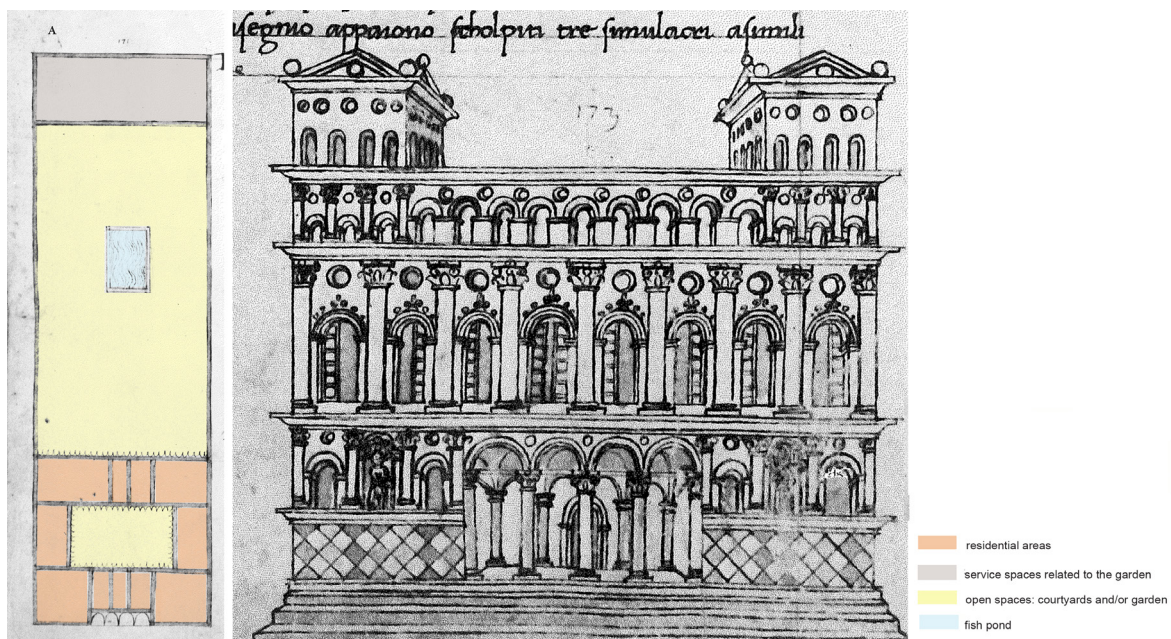

Figure 8. Spatial organization of the plan and facade of Architect's House (Filarete, 1965, Book XVIII, fol.150v, organized by the author, 2022).

The architect's house is raised on three steps which is significant because it is a feature only used in the most noble buildings. A four-arched portico marks the entrance. As another important feature of the main façade, the *opus reticulatum* brickwork till the half of the ground level emphasized by a cornice bears resemblance to the façade of Alberti's *Palazzo Rucellai* (1446-51). The horizontality of the façade creates contrast with the towers at the corners of the house adding power to its occupant.

The main entrance opens to an atrium surrounded by a portico. As the core of the residential part of the plan, it can be interpreted as a reflection of ancient domus/villa. The garden which is twice the size of the residential unit has a pond in the center and behind the garden, service spaces are located. The size of the courtyard and the garden can be interpreted as a reflection of the importance attributed to architect's house regarding the social stratification in the society.

Unlike the other above-mentioned typologies, in which principles of usefulness and convenience come at the forefront, the Architect's House is depicted primarily by it is beauty and decorative elements. Moreover, on the interior of the entrance of the house, the inventors of architecture, sculpture, and other sciences are portrayed in chronological order with a painting of their invention in their hands. As Fane-Saunders (2009) pointed out, the emphasis on the allegory of fame used in the decorative program traces back to Pliny the Elder's (AD 23/24–79) *Naturalis Historia*. Extraordinarily, the first order in the list of notable men with virtue is dedicated to the architects. By including this list of notable men, Filarete enhances his understanding of virtue which is linked with the skills, competence, and inventions of the artists (Book XV, fol. 114r-v; Morrison, 2015).

The details of the Architect's House such as the elevated entrance like the Ducal Palace, its Corinthian proportions like the proportions of Merchant's House, its ornate façade with the adorned *piano nobile* with Corinthian columns and rich decorative

program indicate that the architect belongs to a social class in between the noblemen and the merchants. The social class attributed to the architect corresponds to the emergence of the Renaissance architect as a practitioner of the liberal arts attaining to the level of the intellectual under the patronage of noblemen, merchants and bankers (Kostof, 1986).

5.6. Artisan's house

Even though the artisans started to be recognized during the Renaissance period which can be observed in Filarete's list of artisans in the treatise, the social class of the artisan among the lower classes is associated with the lowest quality of orders: Ionic (Book IX).[12] The house has a rectangular plan with dimensions of 30x50 br. and with a height of 30 br. with the proportions of the house which is supposed to be Ionic with 1:1414 show slight difference (1:1.7) (Onians, 1973, 120).

Similar to the houses pertaining to the upper classes, approximately half of the plan is arranged as a residential unit and the other half is designed as a large inner courtyard. As indicated in the text, the artisan's working space and living spaces are separated and the courtyard is surrounded by service units. Filarete also pointed out that the hall on the upper floor is designed as a cantilever so that it acts as a roof for shops on the ground floor based on the principles of functionality and convenience emphasized in the narrative. Filarete's deliberate choice of not including any illustrations and giving limited information pertaining to this housing typology is in accordance with his hierarchy of the *qualità* of architectural orders and with the artisan's social status.

5.7. Poor man's house

In comparison to the other houses that belong to higher social ranks, Filarete deliberately chose not to put emphasis on the poor man's house. The dimensions of the house are indicated as a square either 10x10 br. or 12x12 br. by making its rank sub-Ionic (Onians, 1973). Since this type of housing is associated with solely the idea of shelter, organizing it in a

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useful way is recommended excluding any architectural refinement (Book XII, fol. 86v). The house of the lowest social class is described only textually without any illustrations.

6. Evaluation on Filarete's domestic architecture: a utopia or a representation of the society?

It is clear that as the layers of Filarete's treatise unfold, the ideal city *Sforzinda* depicts an ideal society and ideal government through ideal architecture. By using various analogies, metaphors, and stories in the narrative of the treatise with the help of the illustrations, Filarete creates his ideal city, in which the architectural values emerge out of the political, social and cultural climate of its time. Among scholars, while Onians (1990, 158) considers the treatise coming "directly out of the reality of the 15th century Italy", some other interpret the fictional character of the treatise as a utopia. Choay (1997, 175) on the other hand, believes that Filarete's *Sforzinda* is not a utopia to be remodeled after, but instead it aims "to illustrate an approach and the application of a method". Similarly, for Olivato (1973, 145), Filarete's urban vision which takes into account the practices of the society is perfectly realizable. Therefore, it is possible to argue that Filarete's clear motivation for convincing his patron to receive architectural commissions and for receiving fame through his inventive ideas is the triggering factor for creating his fictional, yet "realizable" ideal city, which clearly defines societal ranks through domestic architecture.

The analytical examination of both texts and illustrations related to domestic architecture shows us that in the plan typologies of the houses that belong to different social classes in *Sforzinda*, the plan is divided into almost equal spaces of housing units with courtyards and a large garden surrounded by service spaces. Remarkably, the use of this typology seems to be a result of Filarete's acknowledgment of ancient Roman culture and architecture. The similarity can be associated with the discovery of ancient Roman villas that Pliny the Younger mentioned in his letters, which appealed to Renaissance architects and patrons (Ağır, 2010; Burns, 2012). As referred by Pellachia (1992) earlier, the porticoed courtyards bear remarkable importance in the spatial progression of domestic architecture as they appear to be in the center in Filarete's designs of the Ducal Palace, Archiepiscopal Palace and the Architect's House.

Furthermore, it seems that Filarete developed a scheme for housing in accordance with social classes in the 15th century Italy derived from ancient Roman architecture: a *villa* type housing for the upper social classes and *insula* for the lower class. Filarete's perception of the poor man's house with minimum level of comfort borrows from the Roman *insulae*. What is also remarkable is that *decorum* becomes a basic design criterion that reveals itself in the spatial organization of the plan, the height of the façade and decoration.

Moreover, domestic architecture in the treatise also reflects some stylistic features of the Middle Ages such as towers. Here, Filarete's proposal for *Casa del Duca* in Venice which he designed between 1458-59, as a commission from Duke Sforza, appears as an interesting example. The palace is referred in the treatise as "a house in a marshy place" in Book XXI and designed in ancient style together with local elements, in this case with Venetian elements (Schofield&Sebregondi, 2007). Yet, his proposals of housing typologies especially bear resemblances to contemporary buildings in Florence such as *Palazzo Rucellai* and *Palazzo Strozzi* as mentioned before.

The analyses of Filarete's domestic architecture, which show his interpretation of antiquity, the choice of architectural elements in alignment with the social hierarchy and the reflection of contemporary Renaissance practices in his designs, reveal the novel approach of the study to contribute to the literature. Filarete's remarkable portrayal of domestic architecture shows clear alignment with social stratification during the Renaissance period: the architects` emerging social status lays in between the top of the society, the nobility, and the -almost- insignificant lower classes of the artisan and the poor. Moreover, Serlio's categorization

of the domestic architecture for all the social classes for the first time in Renaissance and Palladio's villas with the *decorum* principle seem to take inspiration from Filarete's portrayal of domestic architecture. Filarete's multi-layered treatise, which shows the *fantasia* of the motivated architect with illustrations, plays a prominent role in the recreation of the social, political, cultural aspects, contributing to the notion of ideal city during Renaissance.

Acknowledgement

This article is based on the master's thesis named "Filarete's Treatise in terms of History of Architecture" conducted under the supervision of the thesis advisor Prof. Dr. Aygül Ağır in Architectural History Master's Program in Graduate School in Istanbul Technical University.

Endnotes

[1] Filarete- *phil-arete*-means "lover of virtue" in Greek. Filarete's interest in the "east" and his knowledge of Greek manuscripts owed most probably to the Greek humanist and scholar, Francesco Filelfo (1398-1481) who lived in Constantinople serving John Paleologus VIII (1392-1448) as a secretary between 1420-27 (Onians, 1971, 104-114; Hayes, 2011, 196).

[2] "If, therefore, houses are planned on these principles to suit different classes of persons, as prescribed in my first book, under the subject of propriety *(decor)*, there will be no room for criticism; for they will be arranged with convenience and perfection to suit every purpose (Vitruvius, Book VI, Chp. 5, III).

[3] As many scholars have pointed out, Filarete showed an interest in working under the patronage of the Sultan Mehmet II which can be observed through a letter from Filarete's friend Filelfo to George Amiroutzes (1400-70), a Greek scholar in the imperial court (Eslami, 2014, 157). However, there is no specific information concerning the realization of his intention to work in Constantinople or his whereabouts until his death in 1469. Regarding Filarete's plans to visit Istanbul, see P. Tigler, *Die Architekturheorie des Filarete*, Berlin, 1963, 6; J. Onians, "Alberti and FILA-PETH: A Study in Their Sources," *Journal of the Warburg and Courtauld Institutions, 34* (1971) 96-114; K. Hayes, 2001, Filarete's Journey to the East. In S. Bozdoğan & Ü. B. Çopur, (Ed.), *ACSA International Conference on Oriental-Occidental: Geography, Identity, Space*, (168-171). Turkey: İstanbul, March 16-20.

[4] For the evolution of illustrations in treatises, see M. Carpo, (2001). *Architecture in the Age of Printing. Orality. Writing, Typography, and Printed Images in the History of Architectural Theory*. (S. Benson, translator) Cambridge, Massachusetts: the MIT Press; Waters, M. J. (2012). A Renaissance without order: Ornament, Single-sheet Engravings, and the Mutability of Architectural Prints, *JSAH, 71*(4), 488-523.; A. Payne (1999). *The Architectural treatise in the Italian Renaissance. Architectural Invention, Ornament and Literary Culture*, Cambridge University Press.

[5] Along with humanism, the idea of the individual's success and the artist's reputation-fame which can be traced back to the literary sources of Dante, Boccaccio and Petrarca in the 14th century became more predominant. (Pfisterer, 2009)

[6] Aristotle created the social divisions according to the common needs: the lowest class provide the food, the craftsmen meet the needs of the society, soldiers defend, and the ruling class provide justice (Ackerman&Rosenfeld, 1989, 33).

[7] Ackerman&Rosenfeld (1989, 36) indicated that there were no signs of social segregation by social class clearly stated by Renaissance theorists neither in Rome nor in Paris.

[8] The social hierarchy defined by the Renaissance architects reached to a new level with Serlio who based his domestic architecture on all the existing classes in the society (Rosenfeld, M. R., 1996).

[9] The *braccio* (sing.)- *braccia* (pl.) is the measurement derived from the dimension of a man's arm and used during the Renaissance period in Italy. The measurements of the *braccio* differ from different parts of the Italian states. The Milanese *braccio* mentioned in the treatise is 59,49 cm.

[10] As an early example of associating

virtues with good government, good ruler, the Sienese painter Lorenzetti's "Allegory of Good and Bad Government" painting, located in the Sala dei Nove in the *Palazzo Pubblico,* Sienna, these fresco panels (late 1330s) reflect Aristotelian virtues (Skinner, 1987).

[11] The name of the architect who built the city in the Golden Book, found during the construction of the port city *Plusiapolis* of *Sforzinda,* is "Onitoan Noliaver", an anagram of Filarete's real name Antonio Averlino.

[12] Significantly, in the narrative of the school for boys "*Archicodomus*" in Book XVII, the artisans are entitled to teach their arts to the students as well as the instructors from the liberal arts.

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