

ADSTRATUM AND SUBSTRATUM: THE TYPOLOGICAL PROCESS OF THE PATIO-HOUSE IN CAESARAUGUSTA (ZARAGOZA).*

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ABSTRACT

**This paper received the honourable mention for the Prix de Istanbul, best AACCP 2021 paper, awarded by Özyeğin University.*

This paper reconstructs the patio-house's typological process within the walled city of Zaragoza. The hypothesis of this study is that the tissue of the walled centre of Zaragoza shows a continuous transition from the Roman domus into the patio houses following a subdivision of the original plots. Archaeological excavations in other Umayyad territories, i.e. Palmyra and Bet Shean, revealed a continuous transition from the late Roman to the Umayyad period (Raymond, 2008). Also Caniggia (2001) interpreted the residential building types in Naples as the evolution of the Roman domus substratum. This study instead describes the territory as a historically identified organism (Strappa, Carlotti & Camiz, 2016) and by mounting the individual building surveys reconstructs the typological plan of Caesaraugusta. The surveys were done by the Spanish topographer Dionisio Casañal y Zapatero for the Geographic and Cadastral Institute of Zaragoza in 1911. The research adopts the methodological framework developed by Caniggia and Maffei (2001), and it compares the invariant characters of individual buildings to construct the typological process. The research is based on the assumption that the patio house derived from the Roman domus, which by accepting the adstratum of the Celtiberian and the Visigothic house later developed with continuity into the Umayyad patio-house.

Keywords: typological plan, typological process, patio house

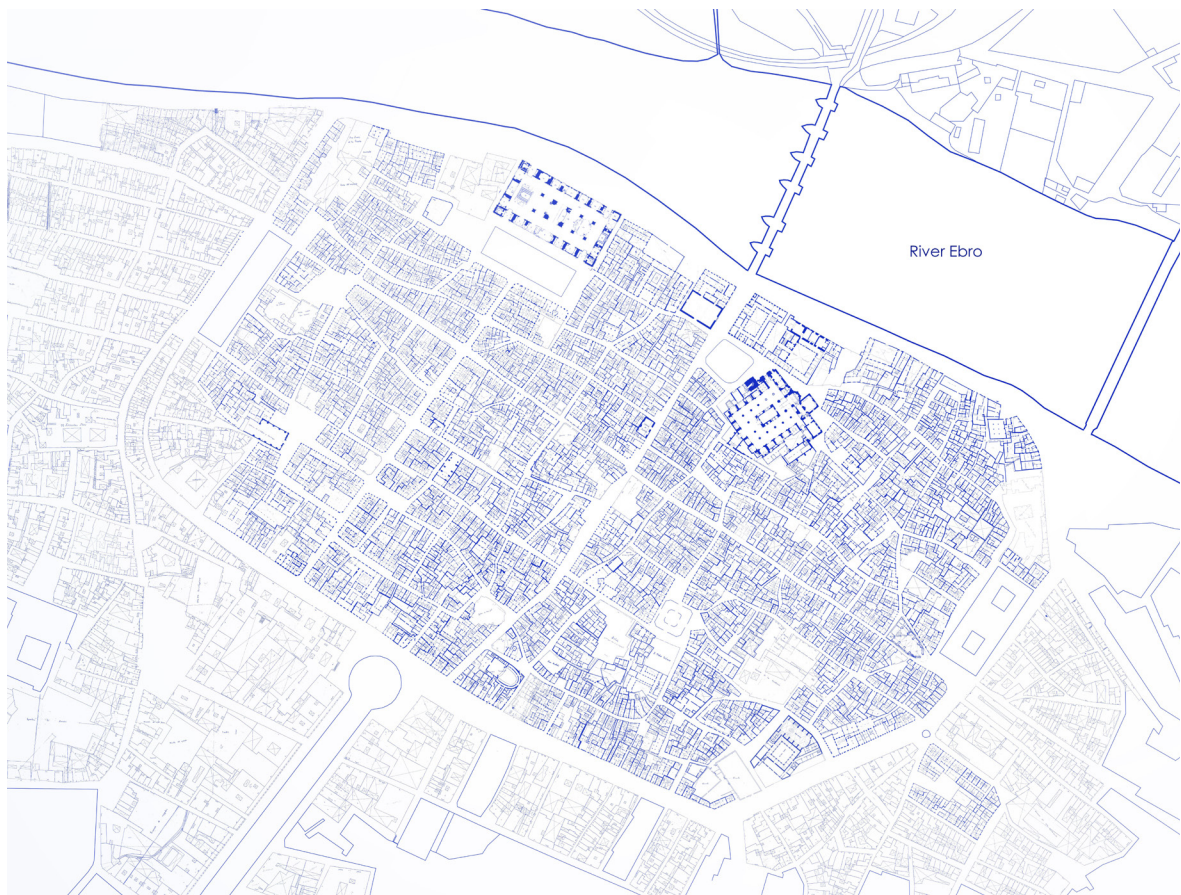
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Introduction

Caesar Augusta, a free colony formed by the ancient Iberian tribe Sedetani on the site of the former Iberian city Saldube, is located in the area of Edetania, which is home to fifty-five nationalities, according to Pliny the Elder (AD 23- AD 79). Caesar Augustus built the city following the Roman Empire's victory in the Cantabrian wars in 14 BC. The Visigoths conquered the city in the fifth century AD. With the invasion of the Umayyads under the name of Saraqusta in the eighth century, the city became a part of the Umayyad caliphate. The city was controlled by the Umayyads of Córdoba from 756 to 1013, the Taifa Kingdom of Zaragoza from 1013 to 1110, the Almoravids from 1085 to 1145, and the Second Taifa era from 1140 to 1203. The goal of this study is to see if the centuries of Muslim administration entirely affected the structure of Caesar Augustus' urban tissue, or if the creation process of the city can be traced back to the founding of the Roman colony.

According to Raymond (2008), the word "Muslim" city was used by the French Orientalist school of Algiers, William and Georges Marçais, and, later, Roger le Tourneau, to define Arab cities. Nothing is more foreign to a Muslim city of the Maghreb than the rectilinear avenues of a Roman or

Fig 1. Typological plan of Zaragoza: prepared by the author.



contemporary metropolis, Le Tourneau remarked. "Any aerial image of a Muslim city seems to be a maze or labyrinth." (Le Tourneau, 1957). Grabar's subsequent research on the Muslim world's area, from Morocco to China, and from Central Asia to tropical Africa (Grabar, 1983), clearly demonstrates the difficulties of utilizing the term "Islamic" when analyzing occurrences and production in various regions. Attempts to find components in the Quran or in Muslim tradition have not yielded universal recommendations concerning the preservation of private life or the limitations of neighborhood life (Raymond, 2008). The sole major text regarding space production is Muslim's oft-quoted hadith: if you argue over the width of a roadway, make it seven cubits wide (Hakim, 1986). After finding out the distinctive criterions that was thought to be particular to Muslim towns such as irregular road system and the cul-de-sac (found in the ancient East), the house with central courtyard (also found in Antiquity) and the division of the city into quarters was also found in different areas of the world, Eugen Wirth (1982) concluded that the suq, the central business district is "the only and fundamental distinctive criterion for the Near Eastern City which can be considered as Islamic cultural heritage." Considering the Roman town Caesar Augustus underneath the Muslim Saraqusta and contemporary Zaragoza, illustrating the formation of quarters requires the understanding of the territory in long term.

Background

In 50s, active study of the territory as a historically identified organism has been taken a step further by the school founded by Saverio Muratori in Italy (Strappa, 2016). The main idea of this school (typo-morphology) was all forms of the territory and the city are the result of a process, of the progressive, systematic association of the parts, and that it makes sense to break it down and investigate its components only if we take into account its essential unity and indivisibility (Strappa, 2016). One of these components is building type. The term typological process is used by Caniggia and Maffei to define the progressive differentiation among building types in the same cultural area (Caniggia & Maffei, 1979). The reason of the change in type is the progressive variations and adaptations of existing buildings. While the existing building can be a base type (house), also it can be a specialised type such as an ancient ruin. During the medievalisation process, builders that constructed on top of ancient ruins and with pieces taken from ancient ruins (spolia) viewed those remains as *materia signata*, the designated matter (Strappa, 2018). After

losing its significance, it is being transformed into a base which man consciously acknowledges, he starts transforming and adapting it to his living requirements, to a substratum (Strappa, 2016). Substratum works as a foundation for new constructions. With the impact of time, the elements that were belong to a building lose their bounding relationship of purpose, therefore the continuity between the different phases of change and development transfer particular characters to these new constructions that arise in that foundation. Such as Rome and Florence (Petruccioli, 2007, Caniggia & Maffei, 1979) Zaragoza also has its distinct set of measurements.

Strappa (2018) defines 'substratum type' as the recurring typical form arises from these transmitted set of characters. The findings of the excavations done in Palmyra and Bet Shean has revealed the transition of forms from the late Roman period to the Umayyad period without any breaks (Raymond, 2008) the transition of type has been expounded by Caniggia (1979) in contemporary Naples as formation of courtyard houses from the Roman domus substrata. Meanwhile, no trace of transition from Roman domus was found in parts of central Italy (including Rome), southern Italy (excluding Naples), and Provence (Petruccioli, 2008) but a different case of transition from Roman domus to medianum house was observed in Ostia Antica by Lucio Barbera (2018). In that particular case the Roman domus turns into a substratum when the street passes through the courtyards and create four medianum house, a diachronic variation of type. For identifying the substrata underneath medieval tissue which formed patio houses, the typographical plan of Zaragoza is used in this research.

Methodology

In 1907, the Zaragoza City Council authorized the engineer and topographer Dionisio Casañal y Zapatero to take part in drawing the general plan of the city for the Hispano-French Exhibition that was going to be held the following year. The preliminary plan of expansion that he had drawn in 1905 was left unapproved. In 1908, Casañal published 1:5000 scale plan of Zaragoza with the authorization of the Zaragoza City Council. This plan was the updated version of work done in 1880 and 1899, reducing the scope of plan to the historical center and gave attention to its commercial and advertising purpose (Abadía & Pardo, 2014).

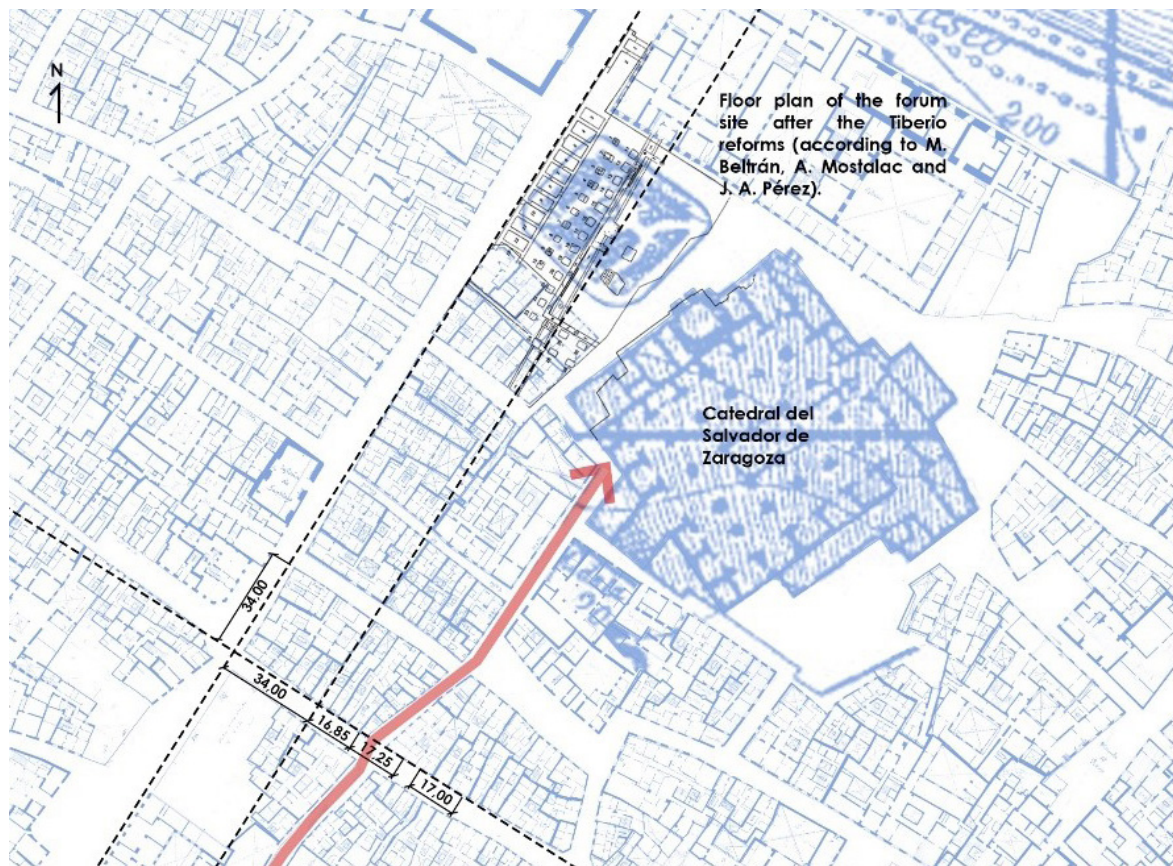
The aim of this research is the analysis of change in the production of variations base type due to existence of urban substrata. For the preparation of the typological plan of the city (Figure 1), the floor plans derived from the archive of

Geographic and Cadastral Institute of Zaragoza done in 1911 by Dionisio Casañal y Zapatero are placed in borders of relevant lots, later this plan has been investigated according to terms of the typo-morphological approach.

Results and Discussions

Andre Bazzana (1992) identified two different types of patio houses in the Iberian Peninsula; the first one he named as “block-like” and the second “attached.” According to Bazzana the reason of this difference between the two types can be answered with the economies of families: the exterior courtyard was used by semi-nomads; the interior courtyard, patterned after the ksar of the Sahara, was originally inhabited by sedentary farmers. Petruccioli (2008) states “such a schematic analysis is doubtful since it is conducted at an insufficiently low level of typological specificity”. In Zaragoza it is possible to find both side-patio and centered-patio houses whether if the building plot is regular or irregular, there are houses with two side-patios, two centered-patios or both with a side-patio and a centered-patio. The typological plan revealed the patio house can have a centered-patio or a side-patio, regardless of the shape or position of the building plot. The variation in the position of patio does not provide an evidence for a diachronic continuation from courtyard house

Fig 2. Dimensions and limits of the building block between decumanus and forum area prepared by the author.



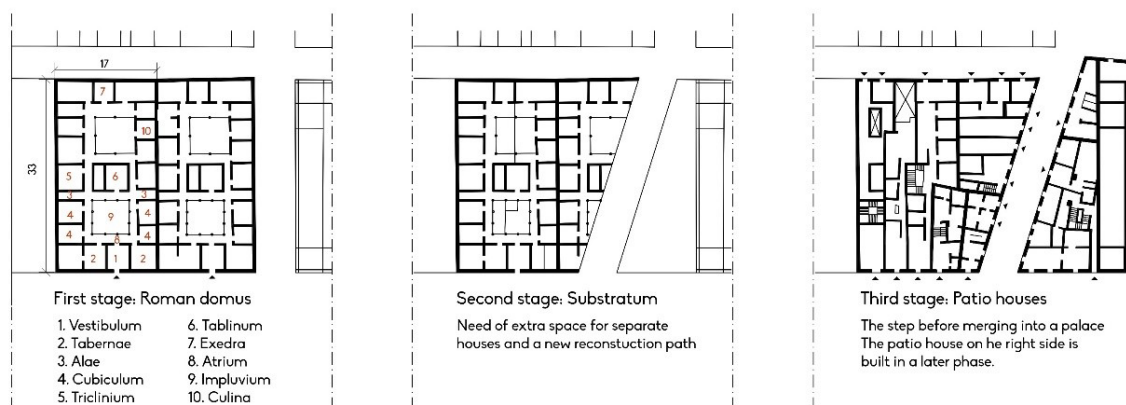
starting with the “critical moment when in a precursor an area around a mono-cellular unit was marked off by an enclosing wall” (Petruccioli,2008). Rather the dimensions of building blocks and irregularity of floor plans indicate the substratum type follow the traces of Roman domus underneath.

The typological plan is showing the irregularities in the urban tissue are limited with changes in the directions of the roads rather than interior organisation. Buildings are not built perpendicular to breakthrough routes but the facades of the buildings on these routes are rebuilt. Further investigation on the dimensions of the building blocks are showing a similarity between different blocks. The area that this research focuses is the intersection of decumanus maximus passing through Door of Toledo and Porte de Valence and the limit provided by the remnants of Forum area. The location of severs taken as reference for the position of the paths in Caesar Augustus to establish a street grid following the dimensions approximately 34 meters in north-south, 66 meters in east-west direction.

The limit taken granted for hypothetical placement of Roman domus is provided by the remnants of Forum area. The north-south length of block (34 meters) allows locating a Roman domus long side perpendicular to decumanus, meanwhile the width from limit of Forum area to road, 31 meters allows location of two more Roman domus in the same direction.

Calle Diego Dormer, the street starting from decumanus (Calle Mayor) and reaching to mosque shows the characteristics of a reconstruction road (Caniggia & Maffei, 1979). The walls of the buildings on left side are perpendicular to Calle Mayor, instead their front façade is parallel to Calle Diego Dormer. The walls of two buildings on right side are perpendicular to Calle Diego Dormer while their wall neighboring the building beside is perpendicular to Calle Mayor. The change in rotation of inner walls shows the buildings on left built before construction of Calle Diego Dormer meanwhile buildings on right was built in

Fig 3. Hypothetical reconstruction of the ancient tissue between decumanus and forum area: prepared by the author.



empty area between the road and the buildings located in east. The hypothetical reconstruction shows two Roman domus located perpendicular to decumanus (Figure 3). In medievalisation phase, these buildings were used as foundation for new buildings and the remnants found around used as building materials. While the area of domus on the left was divided into four new long plots, the area of the domus on the right was invaded by the road and new constructions. The reconstruction road, Calle Diego Dormer possibly built on the empty area which is result of disappearance of the repeller (Camiz,2017), crosses the plot diagonally to reach the Umayyad mosque. The new mosque acts as an attractor (Camiz, 2017) for the road while the area left on the west of road was constructed on ruins of the domus. The triangular plot on the east of the road was empty for a new construction. The partition of the plot of a domus in 5th-6th century onwards was observed by different authors in Iberian Peninsula, Augusta Emerita (Alba Calzado, 1997). The plot of a Late Roman house with a bathing facility encroaching into street was reused for multiple subdivided houses. Such division of plot requires the allotment of land ownership. In *Lex Romana Visigothorum*, Book X, VIII. Concerning the Division of Lands Made Between Goths and Romans, stated, "... no Roman shall take, or claim for himself, any part of the two thirds of said land allotted to a Goth in said division; nor shall any Goth dare to seize, or claim for himself, any of the third part of said land allotted to a Roman..." (ed. S. P. Scott).

Conclusions

The hypothetical reconstruction of patio houses illustrated in this paper is the first step of re-establishing the hypothetical reconstruction the urban tissue inside the city walls. They show the possibility of long term transition in the form of the city not only in the abandoned cities where excavations are revealed the transition of forms from the late Roman period to the Umayyad period. Variety of types and division of building plot in different cases observed in the Iberian Peninsula in 5th – 6th centuries indicates the impact of Visigoth invasions. The transition in Zaragoza needs to be interpreted by including the Visigoth impact as well as Umayyad period.

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