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Barracks from Modern Age Iberian Wars (1650-1750)  
Heritage Value, Contemporary Use and Social Housing

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Abstract. The present paper studies 18th century military garrisons built in border villages of Portuguese Alentejo during the instability period that began with the Restoration War (1640-1668) between Portugal and Spain. Besides presenting their constructive types and materiality, the research focus on the heritage value of these barracks, especially given their urban context inside small peripheral towns’ historical centres under threat of desertification. Three cases are compared in order to determine which contemporary use better favours heritage conservation of the barracks modular structures.

1. Introduction
The military barracks built during the instability period between Portuguese-Spanish Restoration War (1640-1668) and the Peninsular War (1807-1814) have survived until present time and became exceptional edifices inside the historic centres where they stand. Their constructive and patrimonial importance arises from their modular and rigorous dimensions, which were not only crucial for a quick and precise military construction, but also unique inside traditional Portuguese architecture. Furthermore, the towns where they were built are themselves in an exceptional situation: they share the common trait of being historical border towns, militarised in their essence, and facing nowadays important heritage treats. In a time when mass-tourism and gentrification of historical centres are perceived as the major heritage risks, these small peripheral historical towns are struggling with increasing social desertification and consequent physical degradation of their heritage structures.

Which role can exceptional buildings, like 18th century military garrisons, play within this context? This paper presents three cases in the Portuguese towns of Castelo de Vide, Estremoz and Moura, where barracks have today different uses and daily-life integration. After the war period, military lodging use was maintained for only a short while and by the 19th century these buildings were abandoned. Political decision-makers searched for solutions on a case by case basis, which included some demolitions. This research compares three distinct cases that are, respectively, in a situation of abandonment, used as social housing and used as commercial area, to understand the effects of divergent uses in the building’s conservation and surrounding area revitalisation.
Military barracks have been regarded as a small part of the fortification complex and generally overlooked inside the broader military architecture study. They are mentioned from a functional perspective in works on fortified cities, namely gunpowder age star-fort-cities in Portugal [1]. Their architectural features, contrarily, are described and registered mainly in monographic works about the historic villages they belong, as the case of “The old burgo of Castelo de Vide, Portugal. Safeguard and Conservation”[2] or “Modern Fortifications of Moura”[3]. During this research, architectonic and photographic surveys were conducted for the selected case-studies, all of them measured in loco and drawn accordingly. Inquiries of use/habitability were also conducted in the cities of Estremoz and Moura among current occupants and users.

2. Territorial and historical context
In 1640, a Portuguese insurrection puts an end to the dual monarchy that had ruled a united Iberia for 60 years. There begins a period of instability that will endure, with variations in conflict intensity and various cycles of construction/destruction of military architecture, until the end of Napoleonic Invasions (1814). The succession of conflicts would be especially intense in the south-west of the Peninsula, where there are no robust natural borders between Portugal and Spain. The south-western region of the Iberian Peninsula comprises today Portuguese Alentejo and Algarve and Spanish regions of Extremadura and Andalusia. Yet, until the 13th century they had been part of the same administrative units, as Roman Lusitania or the al-Gharb during the Al-Andalus period. It is so as the Guadiana’s valley comprises the same territorial unit, without natural borders; one defined by its plane orography and mainly agrarian landscape with large cork-oak forest. The river Guadiana itself has been, historically, a means of communication and transport rather than a separation line.

Figure 1. Alentejo’s location inside the Iberian Peninsula. Rosado 2019

The existence of a weak border was, hence, always a defining factor for Alentejo’s urban network and cities’ morphology. They were meant to create the border separation, given the inexistence of natural elements to ensure said task. Since medieval times, the urban structure was intertwined with fortification structures, as it was meant to defend this plane and open territory, prone to invasions, and protect the pathways leading directly to Lisbon. At the beginning of Restoration Wars, medieval defensive structures were degraded and obsolete, and all across the border, a major campaign of military reinforcement started. Particularly Alentejo, given its border constraints, was under massive experimental military adjustments. As Conceição states, Alentejo would be continually under works
for the next two centuries: there were enrolled the largest number and best professionals, and it served as a practice field for almost all military engineers [4].

Former fortifications were adapted to gun-powder age technologic requirements, with the construction of defensive bulwark lines and star-forts. Although new fortifications of small size were erected, the majority of fortresses remained on the existent villages and cities’ network. The overlapping of a civil city with military fort would be a time-extended and troublesome process. In an initial moment, military requirements were improvised among existent towns’ resources: inhabitants would build provisory earth walls, and garrisons would occupy state and private houses though compulsory requisitions. The Military would enforce the obligation to lodge soldiers on residents. Only from the last quarter of the 17th century onwards, with the conclusion of the most important fortification works, would the army build its own logistic edifices [5].

In the city of Estremoz, historic archive documents register private houses used as soldier’s lodgings. The 1674 Record of Assets of Estremoz City Council mentions “(...) houses next to the gaol that served as barracks (...)” [6] as well as “Has this council two barracks by Lage’s Gate (...) of three divisions and width of 8 rods and a third [9,20 m] (...)[7]. Of all military interference in civil life, it would be the obligation of lodging soldiers that would cause the greatest friction between civilians and troops. Following protests from populations of several Alentejo’s villages and cities, a campaign to build standard barrack buildings started inside the main fort-cities.

3. The barracks of Castelo de Vide, Estremoz and Moura

Barracks design was one of the items envisaged in Luís Serrão Pimentel’s treaty on fortification “ Método Lusitâncio de Desenhar as Fortificações” (Lusitanian Method for Fortification Drawing), key of the theoretical framework in Portuguese military architecture from its year of publication 1680 until the decline of the bulwark-fort model. They were conceived as one of the non-defensive, yet fundamental, pieces of the military complex, along with hospitals, water cisterns, bakery or masonry bread ovens. Barracks were assigned a preferential location and standard module dimensions: squares from 5,20 m side to 5,50 m side, and height of approx. 3,50 m. Moreover, they should be equipped with chimney and masonry shelves and cabinet [8]. It refers, as an example, to the first barracks “prototypes” built in the city of Elvas, one of the earliest and more important fortification works in Alentejo’s border. In Elvas-Corujeira (post 1646) the living modules were adjusted to the terrain’s slope and distributed in two stories, since module’s entrance could be made at different heights [9]. In Elvas-Artilheiros (post 1659) modules were organised in one level and located in the rampart’s embankment against the new wall inner-side [10]. Having learnt from these examples, Pimentel states that the best location for barracks would be next to the roads serving the new embankments, but the building should not be adjoined to the walls, as it would become damp and unhealthy.

Figure 2. Castelo de Vide’s barracks: view and ground floor plan. Rosado, 2019.
Pimentel’s theoretical models were implemented on the field, with given necessary adaptations, and can, therefore, be found across all the Alentejo’s border. Beginning in the northern extreme of the region’s defensive line, in Castelo de Vide, there can be found an example of barracks integrated inside a consolidated urban mesh. Although not one of the earliest examples – the Portuguese Inventory of Architectural Heritage (SIPA) places the conclusion of their construction in 1714 [11] – Castelo de Vide barracks arise from a very simple model of one-level modules, built alongside a street lane on the edges of the medieval citadel. The northern side of the street was occupied with the embankment of the 17th century fortification, and according to Método Lusitano (ML), it was the most suitable place for lodgings. Two rows of modules occupy both sides of the street, with the inconvenience of the northern block standing directly next to the wall.

The 13 modules are not regular squares, with side dimensions varying between 4.60 m to 4.75 m. Rooms are covered by barrel vaults, with heights of 2.30 m at the lowest point and 4.60 m (average) at the vault’s top. Inside, the single room is equipped with very few, essential elements, with the protagonist being the large fireplace. A masonry bench to support bed structures and a storage wall-niche are the only other items in this utilitarian lodging, with all interior elements being whitewashed with lime render. According to historic archive documentation, one module in Castelo de Vide’s barracks was initially designed to accommodate eight soldiers [12]. On the outside, chimneys located at the main façade give rhythm to the modular rows, but otherwise the building front presents a plain straight image.

Likewise, located inside a medieval citadel are the barracks of Estremoz. In Estremoz there can be found two groups of military lodgings, of different type and construction period, hereinafter referred by their toponyms: Rua Direita and Terreiro do Loureiro. The earliest are the ones of Rua Direita (figure 3) in the medieval neighbourhood of Santiago, on the hill top. Their location and architectonic features make case for its construction date to be placed on the last thirty years of the 17th century. The chosen building site is at the very centre of the residential neighbourhood’s urban mesh, alongside private houses. Liberato theorises that said plot would be empty prior the barracks’ construction: it would be the central square, the only element today missing in an otherwise perfect example of medieval urban planned bastide [13]. This choice of location, occupying a vacant space, seems to indicate a lack of better options, as the recommended new bulwarks’ embankments. It would mean a very probable coincidence of the period of bulwarks’ construction and barracks’ installation, placing the later before 1670, a date when fortification works of the citadel would be concluded [14].

Figure 3. Barracks location inside Estremoz’ neighbourhood of Santiago (Rua Direita – south; Terreiro do Loureiro –north). Rosado, 2019. Extract of the original Lusitanian Method for Fortification Drawing on barracks design.
Furthermore, their design follows an embryonic type of two-stories building with upper floor access made through an exterior veranda upon arches, with only another example found in Elvas: São Martinho, finished in 1663 [15]. This design would later be perfected, but at Rua Direita irregularity is still one of the key features. The 42 modules are divided in two buildings: one, adjacent to residential pre-existent buildings with 7+7 lodgings, the second, standing alone, mirrors two rows of other 7+7 rooms. All rows have an exterior arcade, veranda and stairs (at the row’s southern extremity). The entrance in ground floor modules is done under 1,30 m thickness arches. Large fireplaces stand at the back, flanked by masonry cabinets, and the ceiling is made of crossed wooden beams covered by clay tiles. The lack of vaults – a stronger building solution, recommended in ML – also seems to indicate the “experimental” character of this barracks, attesting its precocity. Upper modules sole equipment is the fireplace, located at the front façade in alternation with ground floor chimneys, which are visible inside the upper floor rooms and appear over the roof ridge. Roofing is also solved with wooden beams covered with clay shingles. Dimensions are irregular, due to builder’s inexperience and/or building adaptation to an irregular site, but the module metric is, on average, 4x4 m.
The military importance of Estremoz’ garrison is attested by its size. To the 42 modules at Rua Direita were added an extra 17 at Terreiro do Loureiro at a latter phase. As the former example, Terreiro do Loureiro barracks’ construction date is unclear. On Estremoz’ plant of 1758 they are referred to as “new barracks”, confirming the posterior construction that its very regular module's shape and dimensions seemed to indicate [16]. They share common traces with Castelo de Vide’s, with an improved construction site: standing on the embankment, without constraints from other buildings, they are not wall-adjacent. An offset of approx. 3 meters allows barracks to avoid damp and humidity, and frees wall access. The modules are organised in one level, aligned in a long row, as the empty implantation site permits. Fireplaces are located at main façade, creating a façade rhythm akin to Castelo de Vide’s. Similarities continue in the barrel-vault ceilings and interior furnishing with storage cabinets dug in wall niches, although there are no traces of bed-supporting benches. All inside elements are lime-render whitewashed.

If it may be affirmed that Estremoz - Terreiro do Loureiro barracks are an improved version of the model used in Castelo de Vide, then Moura’s barracks represent the culmination of the barracks type first attempted at Estremoz - Rua Direita and Elvas - São Martinho. A two-stories rectangular building with exterior arcades arises in a wide empty area, which appears as consequence of demolitions carried to build Moura fortifications’ eastern bulwark. Location is chosen according to ML best guidance: it is in a road leading to the embankment, but freeing wall surroundings. As observed for former examples, more favourable circumstances for location choice and building rigorous design improve with the passing of time. Early 18th century examples benefit from the conclusion of cities’ fortification works, as it creates ideal implementation sites in the new empty embankment areas, while the first barrack structures, built at the same time as walls, had to adapt to existent urban meshes. It is also relevant that engineers and builder’s expertise are enhanced with the amount of completed works, as well as, from 1712 onwards, a prolonged peace period allowed for military structures to be concluded or improved without time pressure from eminent battles.

Figure 6. Moura’s barracks. View with chapel, ground floor plan and first floor plan.
All these factors favoured Moura barracks’ construction, making way to the creation of one of the most refined regional examples. The rectangular building encompasses 46 living modules, 24 on the ground floor and 22 on the first floor. The difference in number is due to the inclusion, on the first floor, of a transversal smaller rectangle with an ecclesiastic function. The building follows the logic of symmetry along the main axis, only broken on the first floor in the inclusion of the Chapel and its differentiated balcony and staircases. Access to upper floor verandas is done through flights of stairs located at both rectangle extremities. Even if the functional logic is the same found in Estremoz - Rua Direita, the scale and precision of Moura’s construction make it almost monumental. The refined arcade design creates an entrance covered space before each ground floor module, slightly lower than street ground level. Both the entrance space directly under the veranda and the ground floor rooms are barrel-vaulted. Module dimensions are consistently of 4 x 4.40 m. Fireplaces are always located at the back wall, and symmetric modules share one chimney. Fireplaces on the first floor alternate position with ground floor ones, so chimneys are standing side by side, in a continuous line visible in the roof ridge, in a clear refinement in the arcade type design.

Moura’s barracks construction has been indicated to have started around 1725 by Santiago Macias in an unpublished text, based on municipal archive documents [17]. Nevertheless, in a later publication on Moura’s modern fortifications, the same author avoids a precise date [18]. Even if uncertain, a construction date on the second quarter of the 18th century is consistent with the level of accuracy and complexity displayed in Moura’s barracks. Their construction would likely have occurred before 1736, as they were used as a model for the barracks of Almeida (1736-1750), a village in central Portugal, which would be the last and most sophisticated example of the two-stories with arcade barrack-type [19].

4. Current use and future perspectives
The end of the Peninsular War (1807-1814) meant the end of gunpowder fortification age and rendered unfit the bulwark star-fort models used across the Portuguese-Spanish border. Furthermore, the ensuing Iberian peace period provoked an army restructuration and withdrawal of a large number of servicemen from border areas. Military structures left empty, as barracks, were incorporated into civil administration. But if administrative buildings or hospitals could easily adapt to civilian use without much change, defensive walls, forts and barracks were abandoned and quickly degraded, particularly in smaller, less strategically significant places.

These buildings followed winding paths since the 19th century, and today they can be found at a wide range of conservation states and uses. In Castelo de Vide they are empty and abandoned. There are traces of vandalism and illegal occupation. Some modules are sealed with masonry; the ones that are opened serve as garbage depositories. The barracks are not recognised as a heritage building but are included in the protection demarcation of the Castle, classified as Portuguese national monument [20]. The legal heritage protection has not, so far, promoted conservation or rehabilitation works.

The same heritage protection situation occurs in Estremoz, where the barracks themselves are not classified but inserted in a well-designed Special Protection Zone (ZEP) that encompasses all fortifications, the entirety of the cities’ historic centre and a landscape buffer zone south from the medieval castle [21]. It allows common housing and other non-monumental structures to be considered without the need for individual recognition and it gives significance to the historic city as a whole entity. Although the barracks are recognized as heritage buildings inside a historic ensemble and identified by the population as having remarkable qualities, their state of conservation is deficient. Nowadays, they are employed for social housing. Although belonging to the City Council, which assigns them to their occupants, both works of adaptation to current needs – toilet installation, joining modules to create inner divisions – and conservation works are responsibility of current inhabitants.
Most modules – or groups of modules, joined together to form dwellings – have no sanitary installations. City Council has adapted one of the upper modules at Rua Direita as a public bathhouse.

![Figure 7. a) Moura’s barracks prior to rehabilitation. Source: Diário do Alentejo; b) Moura’s barracks after the works; c) ruined module at Estremoz – Rua Direita.](image)

Considering that the population fringes in need of public housing do not tend to have material resources to take charge of large construction works, the barracks have their maintenance kept to the minimum level to avoid collapse. Moreover, inhabitants are allowed to give personal imprints to their homes, affecting the exterior unity building appearance. At Rua Direita, the roof of one of the unoccupied upper modules has fallen, taking in its fall, the wooden floor underneath (figure 7c) and it is now compromising the building’s structural stability. Despite the flaws in this model, having tenants occupying the building is probably the main factor impeding the complete collapse that its abandonment would cause. Despite all the physical precariousness, interviewed residents state their desire to remain in what they consider to be their homes [22]. The feeling of neighbourly community and proximity is very strong. Residents’ complaints are directed to the Council’s management as they feel they should receive material or monetary support to conduct conservation works.

Moura’s barracks were until recently in the same situation. Their use as social housing, lodging families from the minority gipsy population – as in Estremoz – despite the deficient housing conditions, was the factor that ensured their maintenance until the 21st century [23]. In 1987, their deterioration condition was such that former Portuguese Republic president Mário Soares asked “when was [the Council] going to raze that ruin” [24]. Fortunately, the building was protected from this and other destructive impetus through its classification as Public Interest Building (IIP) in 1967 [25]. It is the only example of the case-studies that has individual heritage classification, due to its recognition as a masterpiece of military architecture from the first half of the 18th century. Their rehabilitation process, promoted by the City Council, started in 2005 and has been concluded in 2014. It was financed in its majority though European communitarian funds. The project included not only works in the edifice but also the landscape re-arrangement of the surrounding area. The modules are used nowadays as bars, cafés and handicraft workshops.

5. Results and Discussions

The issue of barrack buildings rehabilitation concerns greatly the matter of its use. In its original form they are unfit for contemporary housing. But the question of reassignment of its use has not yet been solved. Moura’s barracks, converted into a commercial area have indeed worked as an attraction point for Moura’s population in leisure times. Bars’ terraces, benefiting from the large surrounding square and building orientation, are generally busy. To Moura, the focus on the catering sector for barracks’ use was a success, especially in bringing city-life to a previously vacant area.
On the downside, there is a limited number of bar/restaurants that can work successfully in the same area. Not all of the building can share the same use, hence the choice in promoting handicrafts workshops. Yet, most of the upper modules are currently empty and closed. The same strategy in handicrafts ateliers was followed in the previously mentioned Elvas - São Martinho barracks, pair of Estremoz - Rua Direita. Although smaller – it has a total of 12 modules – not all of the building is currently occupied. The limitation with this model of transition from residential to commercial use lies on shops’ ability to create/retain business. Moura barracks’ location may enhance people’s attraction, but a peripheral location as Elvas - São Martinho, as well as Castelo de Vide’s or Estremoz’s barracks, would be an additional difficulty. Moura’s successful terrace model would be impractical in either Castelo de Vide or Estremoz.

It is also important to consider these cities/villages current social and demographic situation. Alentejo is a low-density region and has consistently lost population from 1975 onwards. The prime economic activity is still agriculture, and the lack of industry related or tertiary sector jobs causes persistent migration of populations’ younger fringes. Average per capita income is under the country’s average. Heritage value has been mostly perceived under the light of cultural tourism, one of the most popular development options adopted today by municipalities due largely to its potential to create jobs and retain the younger population. Transformation of heritage in a commercial activity is nowadays standard procedure, regardless of the existence of a demographic market to absorb it. And if the commercialisation of historic buildings does not thrive, the resultant income from shops – cafés, souvenir or handicraft shops – can hardly sustain buildings’ future maintenance. Further conservation works would need financing from Council or European funds, in a clearly unsustainable model. Plus, it can be asked if enhancing private commerce is part of the State and Municipal Council’s tasks.

A task that is definitely part of public sphere functions is public housing. It has been observed before that the current living conditions of the inhabited barracks are poor to deficient, and housing, in present conditions, cannot be considered a proper use. But it should be attended that current barracks’ inhabitants have been residing there for a long period and, therefore, have developed not only a sense of belonging but also strong neighbourhood relationships. It should also be considered that these buildings stand inside historic centres which, as a consequence of regional depopulation, are in a process of desertification [26]. Removing residents from these neighbourhoods is counterproductive for social and even physical revitalisation of historic centres. It is in the cities’ interest that barracks buildings keep or return to their residential use, with the necessary adaptations.

Barracks have been conceived as lodging spaces, under the principles of modular, simple and yet very functional architecture design. No opulence was envisaged for these constructions and its beauty lays on its plain but precise conception. The same principles would guide social housing design three hundred years later. It is this simplicity and functionality that makes it possible to introduce adaptations needed to today’s standard living conditions without altering the essence of the original building concept. Those solutions could be, but are not limited to, joining several modules for area growth; transforming one module, or part of it, into restrooms; inserting electricity and sewage network systems using part of the chimney as a duct. In the cases of Estremoz and Castelo de Vide, urgent rehabilitations works are needed, despite the utilitarian allocation the buildings are given. Several factors must still be considered in said projects, as heritage value, neighbourhoods’ social condition, inhabitant's well-being and buildings' architectonic authenticity.

6. Conclusions
The typology of military barracks developed between 1650 and 1750 is a remarkable example of plain and functional traditional architecture. Despite the scarce attention it has received, both its typological evolution process and its urban influence inside historic villages and cities are themes of great
relevance for Portuguese architecture and urbanism studies. The theme of modular construction, and the evolution of these modular buildings in order to optimise space and resources is even of interest in contemporary architecture and can provide valuable opportunities to promote outstanding rehabilitation works. The conservation state of Alentejo’s examples is, save for two punctual cases, deficient at best. There is an impending threat of disappearance hanging over these buildings that should boost their rehabilitation and promote the search of adequacy to contemporaneity.

On this search for adequate contemporary uses, social housing appears as the most interesting of all uses analysed. This function is quite suitable to former barracks as it maintains their primitive essence as a modular housing building and, hence, its authenticity. Indeed, 20th century social housing models would favour modular housing solutions. This modular housing essence appears to be the reason why, in Estremoz and Moura, barracks were naturally converted into public housing for underprivileged classes in the early 20th century, a use that they have maintained, not without contestation, until today in Estremoz. Although the use is adequate to the edifice, both the current tenure model and policy of building’s maintenance present problems. It is fundamental that those are reviewed and improved, just as much as the adaptation of housing partitions to current lifestyle needs is necessary, for the benefit of its inhabitants, the historical building conservation and their historic centres’ vitality.

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Pimentel states about his work in Estremoz fortification’s that upon his arrival both Castel and Santiago neighbourhood walls and bulwarks were completed. L. S. Pimentel, *Método lusitânico de desenhar as fortificações das praças regulares e irregulares, fortes de campanha e outras obras pertencentes à arquitectura militar*. Lisboa, 1680, p. 324. Available at: http://hdl.handle.net/10316.2/4301


Inquiries on living conditions and social relations were conducted among the residents of Estremoz’s barracks during the periods of June 2017 and July/August 2018.

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