CONSIDERATIONS ON FORMATION AND TRANSFORMATION
OF HOUSE TYPES IN THE OLD QUARTER OF CADIZ

カディス旧市街の住宅類型の形成と変容に関する考察

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This paper aims at clarifying the process of formation and transformation of house types in San Francisco area, in the old quarter of Cadiz. Authors did intensive fieldwork in the year 2009 to investigate the current condition of extant buildings, compiling a database for 83 heritage properties registered as architectural heritage by the local authorities. Historical records and planning documents have been used to trace back the origins of these types and their transformation through a time span of 400 years based on the fieldwork on their current situation. As a result, these types can be understood with respect to their main elements pertaining building morphology.

Keywords : *Cadiz, San Francisco district, house type, historical cultural heritage, transformation process*

カディス, サン フランシスコ地区, 住居類型, 歴史文化遺産, 変容過程

1. Introduction.

1-1 Objectives.

The targeted district named San Francisco covers around 68.000 m² in the Northwest area of old quarter of Cadiz, which is registered as no.9 within 12 districts designated as cultural heritage. The district comprises 22 blocks and 224 buildings, 88 of which are listed in inventory of architectural heritage by local municipal heritage board.

House types in Cadiz have been previously studied by several authors ^{1),2),3),4),5)6)}, focusing on stylistic features, but this paper discusses the current state of extant heritage residential buildings in terms of building morphology.

The objective of this paper is to classify the spatial formation of residential buildings according to variables related to building morphology and to clarify the formation and transformation process of building types.

1-2 Materials and methodology.

Fieldwork was conducted from January to November in 2009. The outcome constituted the material for a database compiled in MS Access®, and in PDF data reference sheets for each assessed property⁷⁾. Planning documents from the municipality of Cadiz can be used including CAD, GIS files and statistical records to crosscheck surveyed data. Cadastral database is provided by the Spanish Ministry of Finance, with detailed description of the

property division of buildings, as well as their uses⁸⁾.

Process of transformation has been traced back by means of MAC (Municipal archives of Cadiz)⁹⁾ featuring a database of 4.935 original drawings of historic building plans (Fig. 3) and urban areas⁹⁾, and also digital archives, such as AGS¹⁰⁾ (Archivo General de Simancas) and ICC¹¹⁾ (Institut Cartographic de Catalunya), which contains historical plans and views. Additional materials are helpful to make a reconstruction of the origin of house types. Historical records including data about property structure¹²⁾ and historical reviews analyses house types in Cadiz supply with complementary data for the present research^{13),14),15),16),17)}.

Fig. 1 Location of the city of Cadiz within Spain

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1-3 Fieldwork.

The location of 83 residential propertiesⁱ surveyed is shown in Fig. 2. The database includes 83 house plans, 83 locations plans and 1.320 photographs.

The address, numbers of floors, the size and area of the plot, the area of building etc. of surveyed properties are summarized in Table 1.

2. Classification of House Types.

The 83 surveyed buildings were classified according to the following categories (fig. 4).

X-axis is divided according to the number of plot frontages, and subdivided in terms of number of spans in the main frontage; for plots with 2 fronts, only the spans of the main façade are considered for classification, that is, the number of entrances through where the building can be accessed, which is important for the spatial formation.

Y-axis is divided primarily into number of spans inwards, and subdivided according to number of patios (void spaces inside the plot), as they are important elements in building morphology.

Based on these categories in terms of X and Y-axes, buildings are classified into 3 main groups with their subdivisions.

The majority of buildings (58) have 3 spans in front, which would correspond to types B (1 frontage) and C (2 frontages). These 3 types are summed up to 72 out of 83 properties surveyed, which account for a percentage of 86.7%.

Type A comprises 14 buildings with 1-frontage plot with 2 spans in front, and it is subdivided into two, A1 and A2; These two types have 2+ patios, A1: IV spans in the Y-axis (7 items), A2: V+ spans (7 items).

Type B with 3 spans in front is subdivided into subtypes B1, B2 and B3 according to the number of spans in depth, and patios. Subtype B1, 3 spans in depth, includes properties with 1 patio (9 items), and two patios (4 items). Subtype B2, which has 4 spans in depth, has mainly properties with 2+ patios (12 items) at the expense of those ones with one patio (2 items). Subtype B3, plots with V+ spans in depth, only includes properties with 2 patios (5 items).

Globally, type C follows the same pattern as type B, but faces two frontages; subtype C1, plots with 3 spans in depth, includes properties with one patio (8 items) and 2+ patios (5 items); subtype C2, plots with 4 spans in depth, includes 1 patio (4 items) and 2+ patios (9 items).

3. Statistical analysis.

Following on the classification above, 3 types are analysed with respect to the following variables pertaining building morphology.

Numerical parameters are shown in Table 2: Plot area (m²), built area (m²), plot occupancy (%), floor area ratio FAR (m²

Fig. 2 Fieldwork area. Fig. 3 Historical plan. MAC p.745 812-934 Table 1 Fieldwork database resume.

#ID	STREET	NO	FLOORS	PLOT				BUILT AREA (m ²)	OCCUPANCY (%)	FAR (m ² /m ²)	FAMILIES
				FRONTS	FRONT (m)	BACK (m)	S. (m ²)				
1	Isabel La Católica	3	4	2	57.8	30	756	2782	85.3%	3.68	10
2	Manuel Ráncés	8	4	2	41.5	9.5	166	550	94.2%	3.31	5
3	Rafael de la Viesca	8	4	2	35	22	306	1104	90.6%	3.61	8
4	Rafael de la Viesca	4	4	1	19.3	20.5	383	1424	86.6%	3.72	7
5	Doctor Zurita	1	4	1	10.6	25.5	246	1056	92.3%	4.29	10
6	Rafael de la Viesca	10	4	2	32	16	243	938	86.1%	3.86	7
7	España	13	3	3	35.2	13.6	274	1256	100.0%	4.58	3
8	España	14	3	2	21.2	13.5	274	1256	96.7%	4.58	13
9	España	15	4	3	53.3	15.3	289	1174	91.9%	4.06	4
10	San Francisco (Pza)	4	4	1	7	38	188	705	88.2%	3.75	5
11	Rafael de la Viesca	5	4	1	26	17	218	879	93.6%	4.03	5
12	Manuel Ráncés	4	4	1	17.7	25.3	241	894	89.5%	3.71	4
13	Manuel Ráncés	2	4	1	9.3	25.6	209	799	86.8%	3.82	6
14	Beato Diego de Cadiz	8	4	2	37.8	25.7	522	1733	85.6%	3.32	4
15	San Francisco	4	4	2	9	32.3	285	930	90.2%	3.26	4
16	San Francisco	2	4	1	10	39.5	461	1725	90.2%	3.74	7
17	San Francisco (Pza)	3	4	1	14.4	12.7	185	693	89.6%	3.75	5
18	Manuel Ráncés	3	4	2	35.8	19.4	265	1104	90.6%	4.17	4
19	Doctor Zurita	4	3	2	42	23	366	1339	89.3%	3.66	5
20	Beato Diego de Cadiz	14	4	1	18	21	342	1376	87.9%	4.02	8
21	Beato Diego de Cadiz	10	3	2	43.5	15.25	304	1195	93.4%	3.93	4
22	Manuel Ráncés	1	4	1	11	15.33	202	684	90.1%	3.39	8
23	Ramon de Carranza	10	4	4	71	24.7	389	1597	95.9%	4.11	7
24	Beato Diego de Cadiz	5	3	1	18.5	20.7	355	1021	89.4%	2.88	3
25	Beato Diego de Cadiz	7	3	1	14.7	26	329	776	89.8%	2.36	2
26	Beato Diego de Cadiz	9	4	1	16	27.8	453	1697	91.3%	3.75	18
27	Beato Diego de Cadiz	11	3	1	17.4	24.3	264	867	96.7%	3.28	7
28	San Francisco	14	3	2	36.5	16.5	357	981	91.4%	2.75	5
29	San Francisco	10	4	1	16.1	10	148	551	89.0%	3.72	6
30	San Francisco	8	4	1	12.6	14.3	201	714	84.8%	3.55	6
31	Ramon de Carranza	12	4	2	56	25	612	3169	85.7%	5.18	0
32	Ramon de Carranza	13	4	1	10.3	26.7	268	910	93.0%	3.40	3
33	Ramon de Carranza	4-11	3	1	10.9	43	456	1386	87.7%	3.04	3
34	Ramon de Carranza	16	4	2	44	31.5	672	2796	93.5%	4.16	0
35	Argantonio	2	4	1	7.8	25.8	269	1130	90.0%	4.20	15
36	Ramon de Carranza	19	4	2	41	21	407	1591	92.8%	3.91	0
37	Argantonio	10	4	2	41.6	21	421	1737	95.4%	4.13	3
38	Rubio y Diaz	1	6	1	26.5	28.8	753	1966	83.7%	2.61	0
39	Corneta Soto Guerrero	3	3	1	15.4	12.2	181	769	94.0%	4.25	8
40	San Francisco (Pza)	1	4	2	24	16.3	205	708	92.2%	3.45	5
41	San Francisco	1	3	1	16.7	21.2	264	879	91.1%	3.33	3
42	San Francisco	3	4	1	15	18.7	250	923	92.3%	3.69	3
43	Beato Diego de Cadiz	4	1	1	19.3	20.5	383	261	100.0%	3.98	1
44	San Francisco (Pza)	1-10	4	2	28	10	187	814	96.2%	4.35	5
45	San Francisco	5	3	2	53.5	24.25	701	2150	93.0%	4.07	9
46	San Francisco	7	4	1	10.7	25.9	272	972	88.3%	3.57	4
47	San Francisco	9	4	1	9	25.9	391	1565	90.3%	4.00	0
48	San Francisco	13	5	2	30	14.6	250	1276	95.9%	5.10	9
49	Columela	37	5	2	43	18	368	2110	92.5%	5.73	2
50	San Francisco	17	3	1	7.8	18.3	150	479	83.4%	3.19	3
51	San Francisco	21	4	1	20	20.5	442	1708	92.8%	3.86	5
52	Rosario	14	4	1	16.2	16.7	277	1036	51.4%	3.74	5
53	Rosario	12	4	1	13.4	14.4	205	765	81.6%	3.73	4
54	Marqués de Valdeirigo	2	6	2	35	17	310	1786	91.4%	5.76	5
55	San Francisco	21D	5	2	15	17.6	316	1827	90.1%	5.78	5
56	San Agustín (Pza)	5	6	2	31	17	262	1442	90.8%	5.50	13
57	Marqués de Valdeirigo	4	6	2	38	16	296	1669	91.6%	5.64	4
58	Rosario	27	4	1	14.8	20	243	870	94.4%	3.58	8
59	Rosario	31	4	1	7.7	19.7	117	557	93.8%	4.76	6
60	Rosario	39	4	1	7.7	19.7	94	441	92.0%	4.69	4
61	Cardenal zapata	6	3	2	32.6	23.3	359	1040	86.2%	2.90	8
62	Cardenal zapata	4	3	2	39	37.5	698	1822	85.4%	2.61	7
63	José del Toro	26	3	1	14	13.2	164	575	94.8%	3.51	3
64	José del Toro	20	4	1	13.5	29	401	1462	86.8%	3.65	10
65	Valverde	14	5	2	33.7	18.5	231	1102	90.7%	4.77	8
66	José del Toro	16	4	1	12	18	281	999	92.8%	3.56	4
67	José del Toro	14	4	1	14	24	220	949	92.9%	4.31	6
68	José del Toro	12	4	1	14	19.5	255	1040	90.0%	4.08	7
69	José del Toro	10	4	1	9	19	211	789	90.6%	3.74	5
70	Valverde	18	5	1	11.3	22.5	229	977	93.8%	4.27	6
71	Valverde	16	5	1	11.3	22.5	242	1044	94.5%	4.31	5
72	Rosario	9	4	1	15.6	22	294	1121	87.4%	3.81	6
73	Rosario	21	4	1	9	21	187	737	95.1%	3.94	5
74	Rosario	23	5	1	15.75	29	454	1201	92.4%	2.65	4
75	Rosario	25	5	1	14	25	285	1240	93.2%	4.35	9
76	Cánovas del castillo	40	4	1	14.7	23	318	1270	87.3%	3.99	13
77	Valverde	10	4	1	14.9	20.6	299	1420	89.6%	4.75	10
78	Valverde	8	3	1	11.3	22.7	210	804	84.9%	3.83	4
79	Valverde	3	4	1	9.3	20.4	366	1299	80.3%	3.55	10
80	Cánovas del castillo	36	3	2	42.7	14.5	265	1052	91.2%	3.97	5
81	Cánovas del castillo	34	3	1	13.25	11.61	126	489	91.7%	3.88	3
82	Sagasta	20	3	2	32	14	225	772	95.2%	3.43	3
83	San Pedro	22	3	1	11.2	12.6	170	462	92.4%	2.72	3

built/m² plot), number of floors.

Location and disposition of stairs and patios (Table 3): These elements organize the connection between the building and the exterior, as well as the internal circulations. A prototypical spatial sequence, common for all houses, comprises a centred entrance that leads to the central patio, which is also attached to the main stairs; secondary patios are to be found disjointed from this ensemble. Taking as a reference point the main façade and looking inwards, the following variables are analysed. For the main patio: Bay where it is located; position of the patio regarding the plot shape, making a distinction between centred with respect to the frontage or sided (attached to the party wall); area of the central patio (m²). Regarding the stairs, they are analysed in terms of: Bay where they are located; relative position with respect to the central patio. Secondary patios appear randomly in variegated ways and in different numbers, so the most representative variable to be analysed is their average surface.

Thirdly, the approximate date of construction for the surveyed properties is shown in Table 4. According to available literature and former research by the authors, as this area was developed in the early 16th C and consistently reformed until 19th C, the analysed time span ranges from 1600 to 1900.

Lastly, in order to clarify the relation of these types with the dimensions of the available plot, a scatter chart (Fig. 5) has been composed depicting the relation between frontage and depth of the available plot area.

Characteristics of house types are as follows.

- ① Plot area: Type A features the lowest average values for plots with IV (subtype A1) and V+ bays (subtype A2), as it encompasses only 2 bays in the frontage. Type B shows the same tendency as type A, but depicting higher values for the three considered subtypes (B1, B2 and B3), as it encompasses 3 bays in the façade. It is evident that plots with 2 fronts (type C) have a greater area for the same number of bays than their counterparts with one front.

Fig. 4 Classification of House Plan

Subtypes C1 and C2 show the same tendency, the greater the number of spans, the bigger the plot area; also, this type has higher figures, due to the existence of 2 available fronts. In brief, given a frontage with 2 or 3 spans, plot area rises in parallel with depth of the plot.

- ② Built area: Similar tendency as in point 1 can be observed. Given a fixed building frontage, built area is increased in parallel with depth of the plot. For the same number of bays, type A exhibits the lowest figures, type B intermediate values and type C the highest ones, as a consequence of having two frontages.
- ③ Occupancy: All types present very high occupancy rates, ranging around 90%. No distinction has been found regarding each subtype, which means that this variable bears no relation with the plot area or the number of spans. In other words, high density is a clear objective for all types.
- ④ Floor to area ratio (FAR): This point is ought to be understood together with the former. Despite slight oscillations can be remarked, types A, B and C, with their respective subtypes, feature FAR around 4. These figures can be considered very high, and also independent from the plot area and the number of spans. Again, this high FAR reveals a strong willing of profiting the maximum from the plot, no matter its size, location or shape.
- ⑤ Number of floors: No differences can be made between the three groups and their subdivisions. A, B and C show an average value around 4 floors, which is a constant in this urban tissue for every surveyed property.
- ⑥ Position of the central patio: For all types and subtypes the predominant location of the main patio is found at the second bay. Regarding its position with respect to the layout of the plot, type A has predominantly sided patios, as it has only two bays; types B and C feature predominantly centred patios.
- ⑦ Surface of the main and additional patios. These two variables ought to be understood together. Surface of the main patio increases in parallel with the depth of the plot for all subtypes; however, subtype B3 shows an average area for the main patio lower than subtypes B1 and B2, at the expense of bigger secondary patios. This means that central patios have an upper limit from which their surface remains constant, and additional open surface is possible due to secondary patios.
- ⑧ Position of the stairs. Globally, stairs are fundamentally placed in the 3rd span, and centred with respect to the main patio, composing in this way the aforementioned characteristic spatial composition, together with the central patio. However, subtype B1 shows an equal distribution between the 2nd and 3rd bay; this fact matches

the predominant disposition of stairs with respect to the main patio, which in this case is equally distributed between centred and sided position. Making a picture,

Table 2 Building parameters. Average values

PE	SUBTYPE. SPANS IN DEPTH	PLOT AREA (m2)	BUILT AREA (m2)	OCCUPANCY (%)	FAR (m2/ m2)	FLOORS
A	III	-	-	-	-	-
	A1-IV	238.5	914.3	89.5	3.84	4
	A2-V+	322.8	1209.7	90.2	3.82	4.14
B	B1-III	221.6	863.1	87.9	3.90	3.78
	B2-IV	298.7	1094	90.6	3.75	3.85
	B3-V+	331.4	1216.8	89.6	3.66	4
C	C1-III	279.1	1279.2	92.1	4.41	4.16
	C2-IV	453.7	1760.1	91.5	4.02	4.09
	V+	-	-	-	-	-

Table 3 Building elements. Patios and stairs.

TYPE SUBTYPE		CENTRAL PATIO						STAIRS						
		SPAN LOCATI ON (%)		Centred (C) (%) Side (S) (%)		SURF (m2)	OTHER PATIOS SURF (m2)	SPAN LOCATION (%)				Centred (C) (%) Side (S) (%)		
		2dn	3rd	C	S			1st	2dn	3rd	4th	C	S	
A	A1	-	-	-	-	-	-	0	-	-	-	-	-	-
	A2	100	0	0	100	15	11.94	0	15	85	0	72	28	0
B	B1	85	15	0	100	19	13.23	0	0	85	15	100	0	0
	B2	100	0	100	0	18.34	9.8	0	7	93	0	86	14	0
	B3	80	20	80	20	14.73	19.94	0	0	80	20	60	40	0
C	C1	100	0	92	8	17.80	6.61	8	33	59	0	50	50	0
	C2	91	9	100	0	29.42	11.11	0	18	82	0	50	50	0
		-	-	-	-	-	-	-	-	-	-	-	-	-

Table 4 Date of construction

TYPE	SUBTYPE SPANS IN DEPTH	1600-1700	1700-1800	1800-1900
Type A	III	-	-	-
	A1-IV	0%	72%	28%
	A2-V+	14%	43%	43%
Type B	B1-III	0%	86%	14%
	B2-IV	7%	50%	43%
	B3-V+	0%	60%	40%
Type C	C1-III	16%	41%	43%
	C2-IV	9%	41%	50%
	V+	-	-	-

Fig. 5 Plot frontage (X-axis) and plot depth (Y-axis).

Fig. 6 Formation of house types.

and joining points 7 and 5, a spatial system composed by entrance, central patio and stairs can be devised for all types and subtypes.

- ⑨ Date of construction: Despite that this area was developed during XVII Century, this urban tissue was erected in the 18th and 19th Century by means of a profound urban renovation; only very few items have been found to date back from the XVII Century, and no items were erected after 1900. For all types, items are distributed mainly amongst the 18th C and the 19th C; this time span, barely 200 years, reveals that all types are produced in parallel, in a very well defined chronological context. That, also, gives a hint about the formation process, suggesting that instead of a chronological evolution of several types, a formal evolution of a given type or subtype is found in this case.
- ⑩ Relation between types, frontage and depth of plots (Fig. 5). Scattered data for the 83 surveyed properties shows three tendencies that bear close relation with types A, B and C. In this figure, the total length of the frontage has been taken into account. Types A, B and C can be placed in definite ranges, with relation to frontage and plot depth. As

types A and B have only one frontage, their data is more concentrated in the X axis; type C, with two frontages, present more scattered data.

- ⑪ A clear division between plots with one frontage and two frontages can be established in 20m, which correspond to the classical composition of 3 spans in the front, with a centred entrance and two spans at both sides. Leftwards, types A and B are to be found, and rightwards type C. Type A features narrow frontages between 7 and 11 metres (only 2 spans), and very variable plot depths, between 15 and 45 m. Type B shows longer fronts between 11 and 20 m (3 spans) and more compact data regarding plot depth, between 11 and 20 m. Type C, for its part, is very flexible regarding its frontage, with data varying between 20 and 60m; plot depth is found to be similar to type B.

4. Considerations on interrelations between house types-formation and transformation of house types.

According to the data analysis, the following points are concluded in terms of building morphology (Fig. 6).

- ① As for the relationship between date of building and house type, we cannot find any significant relation. Basic spatial arrangements of all types are based on almost the same spatial structure, which consists of entrance, central patio with attached stairs. As previous authors' thesis²¹⁾ say, this spatial system is traced back to the origin, that is, the date of foundation of Cadiz. It is documented that plots in the 16th C would be around 15x17 varas (around 200 m²). Based on this document, it can be supposed that subtypes B1 and C1 have existed from the foundation and are the original layout, for 1 front house type and 2 front house types respectively. We cannot point out chronological evolution as for house plan; instead, it can be said that the very formal plan, a well-established and standardised model of house plan, had been adopted in the beginning of its foundation. It can be supposed that the original standard plan had been transformed in the process of adaptation to the plot conditions during these 200 years (Fig. 6).

- 1.) Adapting the original type to the plots with various sizes, by increasing plot depth (Fig. 6 (1)) and reducing plot frontage (Fig. 6 (2)).
- 2.) Making variations in the internal arrangement of the elements that organize the type, that is, the ensemble entrance-patio-stairs. For each subtype, two sub-subtypes are distinguished, i.e. (a) aligned entrance-patio-stairs, (b) aligned entrance-patio and sided stairs. We can find these two sub-subtypes spatial system in all types and subtypes.
- 3.) Adding auxiliary patios in a variety of positions (*). No clear organization can be devised for them.

② Average values for occupancy rates (around 90%), number of floors (around 4) and FAR (around 4) are common for all types, which indicates that this transformation process pursued very high built densities in order to gain the maximum volume to the scarce available land.

③ As a consequence of this process, types A, B and C, and their subtypes can be divided attending at the plot dimensions (X-axis, Y-axis), the plot area and the built area. 20m marks the frontier between plots with one and two frontages. For each combination of frontage and depth, curves depicting plot area and built area are composed: as FAR is constant around 4, for each given plot, built area is to be devised multiplying the former by 4. This allows establishing areas (shaded in tones of grey) where predominant parameters for resulting types can be clarified.

④ Regarding building elements (ensemble entrance-patio-stairs), for each type and subtype, the transformation process has produced a rigid scheme. The main patio is to be found in the second bay for all types, predominantly centred, except for type A, where it is predominantly sided. The only variation of the stairs consists on placing it centred or sided with respect to the patio. Secondary patios are distributed randomly without any fixed arrangement, being an aid for additional lighting and ventilation.

⑤ During 200 years, all types developed a common pattern regarding their formation: A system for obtaining the maximum profit from scarce land. For any given plot, the original type (C1 and B1) expands or contracts its structural grid to adapt to any shape. Then, this grid is extruded vertically to reach a maximum building density (4 floors, occupancy 90%, FAR 4) and the ensemble entrance-stairs-patio accommodate in this frame, with a fixed layout. This foretells that all types adopt a standardised spatial arrangement in terms of building morphology.

As Table 1 (the rightmost column) shows, many families (maximum 18 families) live in one house building at present although 4 houses are unoccupied, which shows the courtyard types has flexibility to accept various families and family types.

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Notes

*1) Visited on January 2015 to compile a digital photographic archive of available material.

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¹ Among 88 items, 2 were excluded as they are not residential properties, a church and its annex (Fig.2.*1 and *2); 3 properties could not be accessed as they were in a state of ruin.

和文要約

本論文は、スペイン、カディスの旧市街のサン・フランシスコ地区の住居類型について、住居類型間の関係（原型と変化型）について明らかにすることを目的としている。地区は、カディス市の歴史文化地区に指定され、22の街区、224の建築物によって構成されている。臨地調査は、カディス市とともに J. A. プリドアルカス が 2009 年のほぼ一年にわたって行ったもので、88 軒（分析対象としたのは 83 軒）の実測およびヒヤリングが中心である。

住居の類型化は、平面形に着目し、ファサードの幅（スパン数）と奥行（スパン数）、パティオの数、階段の位置を分類の軸にした。大きく 3 つに類型化されるが、建設年代に大きな差は見られない。中央に中庭をもつ極めて形式的な類型（B1, C1）が 16 世紀に建設されていることから、当初から 4 階建の極めて高密度の居住形式が採用されてきたことがわかる。現在、最大 18 家族が居住するなど様々な家族が居住している。4 層中庭式住居の基本型の柔軟性を示している。本論文は、南スペインの都市とは異なる住居類型による都市組織のあり方を明らかにする大きな意義を有している。

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