

Understanding and documenting decorated façades of the Coquimbo Region in Chile

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Abstract

The present contribution aims at documenting decorated earthen architecture in the Coquimbo Region of Chile, in the provinces of Limarí and Elqui, specifically in Tulahuén and Pisco Elqui. The peculiarity of these decorated façades is their rich ornamental composition, resulting in interesting patterns and textural realizations. These decorated façades witness the significance of Chilean earthen heritage and thus deserve an in-depth investigation.

The vernacular buildings observed in the Limarí Valley present irregular and non-formal geometric decorations and graphic representation, engraved motifs and tiling, and wavy patterns, creatively interpreting the façade as the owner's canvas. The earthen architecture of Pisco Elqui shows a formal façade decorative composition, which could be associated with the presence of a school of masters and artisans with decorative expertise. The latter façades present classical features and stuccoes combined with geometrically composed pattern textures and engraved elements. The vernacular decorations of Limarí buildings' façades enclose immaterial values and express themselves through the anonymous touch of the inhabitants, revealing intimate stories and ancient local memories.

The present paper also promotes the possibility of reviving this decorative tradition as a tool for contemporary projects for the renovation of earthen houses at the urban scale, enhancing the importance of using local and sustainable materials.

Keywords: Façade decoration, Vernacular houses, Artisanal process, Cultural identity, Tangible heritage

1. Introduction: historical background of Coquimbo Region earthen architecture

The Coquimbo Region is part of the Chilean "semi-arid" north (Fig. 1). It is considered climatically in transition since it is located after the Atacama Desert and before the country's temperate and fertile central valley. This region corresponds to the narrowest part of Chile, with an average of 150 km from the Andes mountain to the east and the Pacific Ocean to the west, with an altitude from 0 at sea level to 1400 m. It is crossed transversally by three rivers (*Limarí, Elqui, and Choapa*), which form the so-called *transversal valleys* that were inhabited in pre-Hispanic times -in chronological order- by the *Ánima, Molle, Diaguita, and Diaguita Inka* cultures, all of

36 whom left its imprint in the use of earth-based construction techniques, mainly thatch (called *quincha* in
37 Spanish), and in the use of rich geometric patterns present in ceramics for daily and ritual use.



38
39 Fig. 1. The Coquimbo Region and map indicating the specific location of the two case studies: Tulahuén and
40 Pisco Elqui (Cecilia De Santis, 2022).

41
42 From the 16th century, after the Spanish invasion of the Americas, and as in other parts of the continent, the
43 region was populated with urban settlements, with Catholic churches and colonial houses that repeated the
44 pattern of grouping together and being built in adobe masonry, a technique that became the most common in
45 the Colonial period. After that, from the second half of the 19th century, in the so-called *Republican period*,
46 after Independence from the Spanish, the Coquimbo Region enjoyed a great economic boom because of mining
47 production, leading it to become one of the main exporters of silver abroad. As a result of this, the ships that
48 traveled full of export products returned to the port of Coquimbo loaded with American Oregon Pine wood and
49 sea carpenters from North America, France, and England, who became architects and builders, modifying the
50 local architecture, through the incorporation of decorative elements made of wood in Neoclassical style.

51 All these historical-constructive phases were mixed, making the architectural heritage of the Coquimbo Region
52 very unique and not found in other regions of Chile and Latin America, with typologies, construction techniques,
53 decorative elements, and uses that demonstrate the cultural mixture. Unfortunately, much of this heritage is not
54 officially protected and is in a state of decay. Therefore, to register and characterize this heritage as the first step
55 towards its enhancement, the research project "Singular earthen heritage of the Coquimbo Region. Registration
56 and characterization" was financed by the Chilean Ministry of Cultures, Arts and Heritage. The analysis of the
57 decorative coatings of Tulahuén and Pisco Elqui is part of this investigation.

59 2. The composition of the decorated façades of Coquimbo

60 The picturesque façades of the Coquimbo Region witness the native artistic inclination of Chilean inhabitants
61 towards the decoration of their houses. The façades that have been observed can be included between the second
62 half of the 19th century and the present day. During various on-site missions, many decorated façades of the
63 Coquimbo Region have been documented as part of the Project funded by the Ministry of Culture, Art and
64 Heritage of Chile "Patrimonios singulares de tierra no protegidos de la región de Coquimbo, Chile. Registro y
65 caracterización" (*Singular earthen heritage with no legal protection of Coquimbo Region, Chile. Documentation and characterization*). These on-site, in-depth research activities aimed at recording the diverse
66 earthen heritage within its decorative peculiarities and features; since Elqui and Limari Valleys are quite well
67 renowned for their earthen architecture, the explorative tours started from here. These expeditions aimed to
68 record and disseminate such interesting heritage made of fragile materials, thus needing particular protection
69 and valorization. Valle del Elqui and Limari façades have been creatively decorated throughout generations,
70 renovated with contemporary materials, and painted or engraved with local motifs expressing the local artistic
71 culture. These colorful façades create a vibrant urban fabric and, therefore, need to be conserved as part of a
72 long artistic tradition that tells the story of every single village.

74 The phenomenon of decorated rural houses is very significant as it becomes a narration of a particular
75 community. Each of the various houses preserves the memory of a generation and sometimes reveals mysterious
76 bonds with the Diaguita culture. The pre-inca Diaguita people lived in these areas, and it is assumed, as far as
77 we are concerned, that the symbolism of the artistic production of this ancestral indigenous culture could have
78 been incorporated into the modern artistic expressions of the Coquimbo's population. The text of the Chilean
79 archaeologist Paula Gonzalez highlights the significance of Diaguita symbolism and the importance of geometry
80 for their artistic ceramic production: "Diaguita art presents a visual logic characterized by the use of complex
81 symmetries, movement illusion and vibration, variabilities and infinite geometric elements, horror vacui,
82 hypnotic attraction" [Gonzalez, 2017].

83 Diaguita artisans explore the infinite possibilities of symmetric variation. This activity reveals a deep knowledge
84 of the laws of geometry. Therefore, these symbols and patterns found on the Diaguita pottery could be used as
85 a tool to interpret specific motifs found on contemporary decorated façades of Limari Valley, as they show
86 constant use of motifs and repetition of hypnotic patterns (Fig. 2).

87 The wavy pattern found on several façades of the houses, obtained through the use of a manufactured pointy
88 tool that engraves the plaster, is an original expression of the cultural dynamism of this Chilean community
89 rooted in the Diaguita's artistic sensitivity.
90



91
92 Fig. 2. Diaguita pottery, La Serena Museum (Elena De Santis, 2012).
93

94 In the Coquimbo Region, in Limarí and Elqui Provinces, two case studies have been analyzed, respectively in
95 Tulahuén, a small town close to Andean Cordillera (municipality of Monte Patria) and Pisco Elqui, in the Elqui
96 Valley.

97 In the realm of Limarí, the façade decorations are made directly on the plastered façade of adobe houses, using
98 gypsum, clay, concrete, and other materials. The families of patterns that have been retrieved on the exterior façades
99 can be cataloged as follows:

- 100 • The wavy and linear patterns engraved on the surface with the *sgraffito* technique on top of the plaster with
101 cement-based binders. It is assumed that these patterns are the oldest as they do not have subsequent painting
102 layers, and they appear quite rough and gross (Figg. 3 and 4);
- 103 • The geometric patterns repeated in a rhythmic sequence engraved with the *sgraffito* technique: the most
104 used shapes are the square, rhombus, and more complex ones composed by repetition of square with
105 smaller rhombus around (Figg. 5 and 6);
- 106 • The regular patterns simulating clay bricks in the basement;
- 107 • Some internal patterned decorations worthy to be mentioned: one of the most significant is the painted
108 pattern on lime/gypsum-based plaster in the interiors of a religious building, the church of Tulahuén, for
109 which it has been elaborated a geometrical study based on proportions, alignment and centrality of
110 representation (Fig. 7);
- 111 • Wallpapers with flowery motifs applied directly on the plaster of internal vertical surfaces: this is another
112 interesting decorative technique found in one of the oldest vernacular houses of Tulahuén.

113



114
115 Fig. 3. Decorated façade of Tulahuén, Valle de Limari (Elena De Santis, 2022).
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117
118 Fig. 4. Engraved linear pattern of Tulahuén, Limari Valley (Elena De Santis, 2022).
119

120 As mentioned before, the rural villages of Limari Valley have a more naïf and simple characterization of the
121 façades because, most of the time, the owner realized the external decorations. This approach conveys to the
122 façade a unique character that expresses the personal aesthetic view of the inhabitants. Limari Valley's society
123 is mainly dedicated to agriculture and mining activities; therefore, the anonymous artists thought to be the
124 creators of these particular façades patterns mainly belong to the workers' class. Fig. 5 shows the rhomboid
125 motif wrapping the windows and the doors of the building, generating an interesting patterned engraved surface.

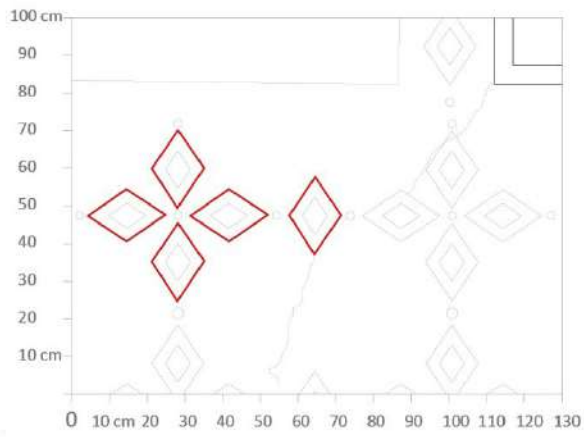
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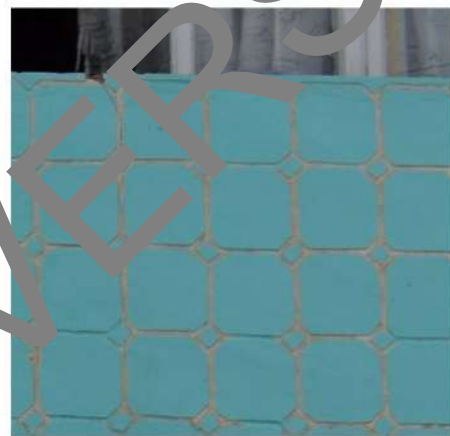
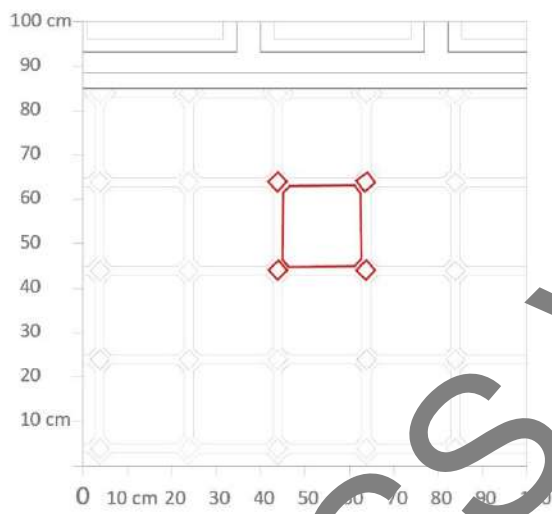
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128 Fig. 5. Decorated façade of Tulahuèn, Limari Valley (Elena De Santis, 2022).

129
130 Therefore, the historic center of Tulahuèn is a unique example of a small rural town with plenty of buildings
131 with exceptional aesthetic vocation. The principal witnesses are the great variety of decorative patterns/tilings
132 and textures that have been identified, along with many façades decorated with textured plasters with a strong
133 evocative value. Some graphic elaborations and representations of these decorations have been produced to
134 highlight the peculiarity of the motifs (Figg. 6, 7, and 8).

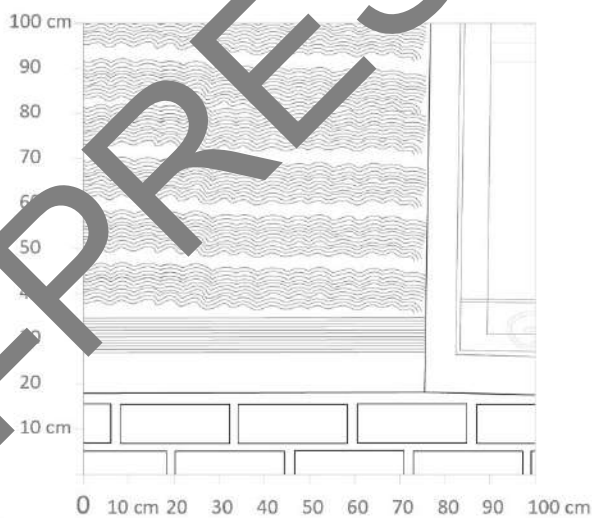
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pattern



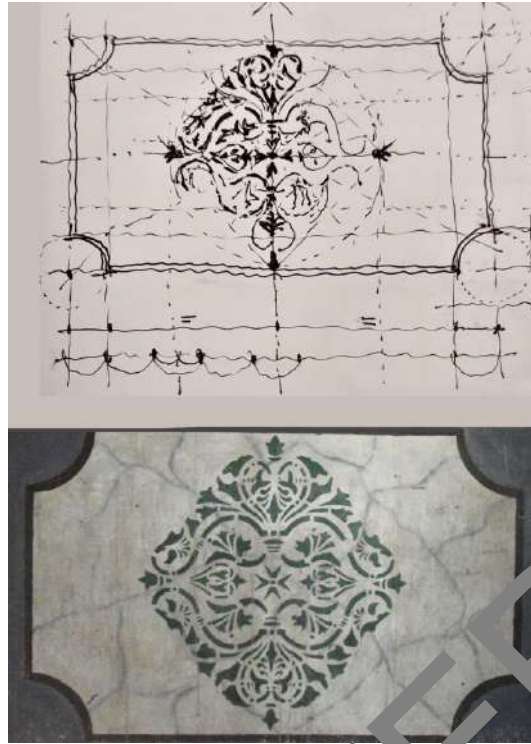
tilings



texture

136

137 Fig. 6. Pattern, tilings, and texture of façades in Tuluahuén, Limarí Valley (Elena De Santis, 2022).



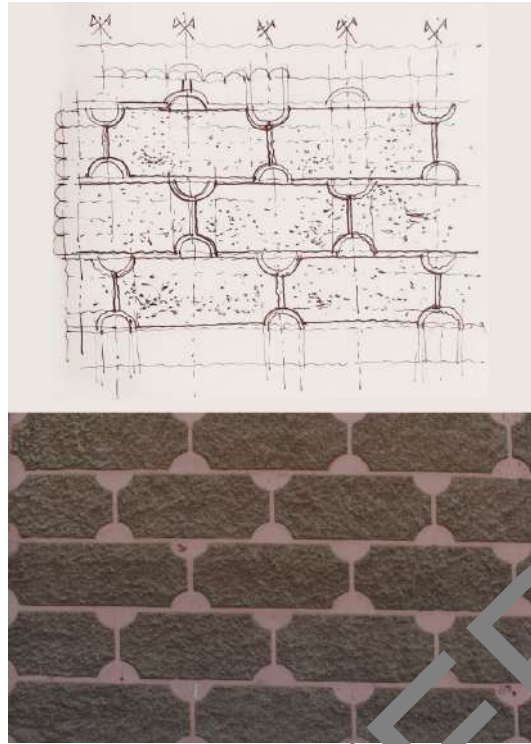
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139 Fig. 7. Study on the geometry and symmetry of the pattern, Church in Tulahuén (Emanuela Chiavoni, Elena De
140 Santis, 2022).

141

142 Regarding Elqui Valley's textures and patterns, the ones that have been documented present a formal geometric
143 composition, and this configuration might derive from a school of masters, artisans, carpenters, and artists who
144 have been active during the last century. The structure of the decorated façades of Elqui Valley typically presents
145 two main contrasting colors, a repetitive rhythm (Fig. 8) and neo-colonial features such as lesene, imitation
146 ashlar, bands, cornices, and fine decorated features (Fig. 9). An interesting element that proves the existence
147 of a school of masters and architects is the signature of the executor traced on top of the main access door (Fig.
148 10). In this specific case *A.M.* stands for *Architect Miranda*, who designed this decorated building in Pisco Elqui
149 in 1935.

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Fig. 8. Study of a decorated façade of Pisco Elqui, Elqui Valley (Emmanuel Chiavoni, Elena De Santis, 2022).



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Fig. 9. Decorated façade of Pisco Elqui, Elqui Valley (Elena De Santis, 2022).

157 3. The significance of representation as a generator of cultural value

158 The role of drawing for understanding heritage is always unique and irreplaceable; during the process of
159 involvement and dialogue triggered by the act of drawing between the researcher and the architecture,
160 preliminary attention towards the care and the valorization project of the object itself begins. Whoever draws
161 has a privileged, sensitive, emotional, and technical observation, which permits acknowledgment and
162 understanding of the architectural typology, materiality, and the relevant urban context.

163 Through direct observation, it is possible to consciously or unconsciously understand the cultural values and
164 the different social, historical, and religious significance transmitted by the building. Therefore, these
165 peculiarities are critically interpreted and registered throughout the drawing to reach deep knowledge.

166 The urban complex space, where the built heritage and the street pattern coexist within solids and voids, must
167 be considered a fluid and unstable realm of local memories with constant recalls of the personal historical
168 tradition linked to cultural heritage.

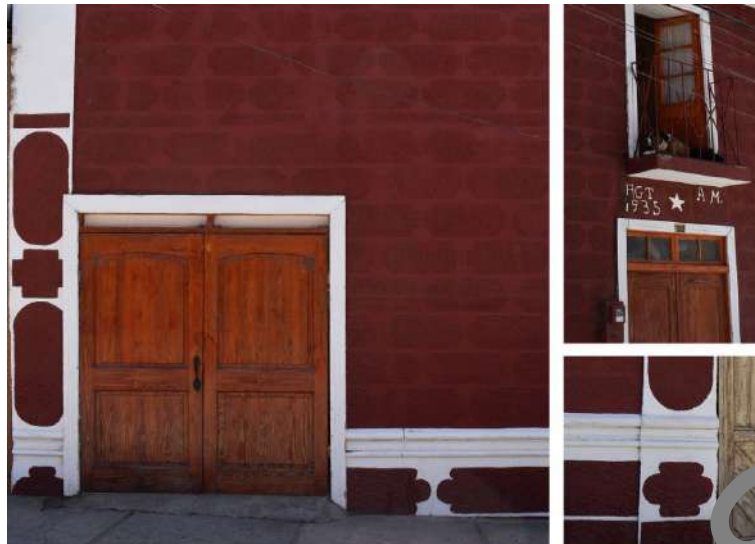
169 The researched element is at the base of the interactive relationship between the drawer and the object. When
170 the investigation is undertaken by research experts who, through the drawing, correctly interpret shapes,
171 geometries, and relations that tie the decoration within the structure and façade proportions, it is possible to
172 read the invisible, the underlying, such as the cultural identity and the historical inheritance, which they are
173 referred.

174 This evidence is an inexhaustible source of aspects in which practical capabilities, artistic sensibility, the
175 concreteness of realizations, and the delicate recognition operations highlight the know-how, social awareness,
176 symbolic, religious, and urban population features.

177 It is essential to retrace the procedure used to make the façade ornamentation. Generally, the first creative idea
178 arises from the drawing - often a simplified and active drawing - verified during the making process, while
179 afterward, it is through a critical investigation act that it is possible to appreciate the rhythm, harmony,
180 geometric rigor, and the symmetries and asymmetries, and clearly capture the effects and peculiarities.

181 Interpreting patterns, textures, and fabrics allows the reflection on graphic quality, geometric correctness, and
182 mathematical precision but also enables the association and comparison between the various patterns and
183 nature or other existing elements. Most of the time, indeed, it is the rigor of geometry that controls the
184 representation of ornaments.

185 As mentioned before, in order to reproduce shapes repeating themselves according to a linear, vertical, and
186 horizontal rhythm with peculiar proportions and sizes, cut-out shapes, rakes, and moldings: these specific tools
187 used in the Coçimbo Region facilitated the possibility of creating these reproductions, keeping, in the
188 repetition, in the translation or overlapping layers, the equality of the pattern and the distances among the parts
189 (Fig. 10).



190

191 Fig. 10. Red decorated house in Pisco Elqui, Elqui Valley (Elena De Santis, 2022).

192

193 With the survey, initially pursued in an expeditious manner and then supported by measurement tools, there
194 is the chance to assess detail proportions and small fragments of ornaments and using photographs, sometimes
195 taken using a grid to control the relationship among points, it is practicable to control structures, forms,
196 geometries. As an additional verification, the *spolvero* technique (sprinkling) allows tracking the façade's
197 details on the paper sheet at a scale of 1:1. In Limarì and Elqui provinces, the façade decorations have been
198 inserted in the perimetral area of the façade around the edges, following horizontal lines marked by
199 thickness differences; in both cases, artistic and regular values arise, simple geometries, simplified
200 representations, easily manageable in the complex decorated *canvas*. Throughout these investigations, it is
201 possible to assume the artisanal production beyond the ornamental realizations and, with the tactile sense,
202 appreciate the diversity of thickness in the three-dimensionality, the material consistency, and the roughness.

203 The drawing is always the common thread that bonds all the work, implying the decorated surfaces: from the
204 first spontaneously made sketch, the result of the first creative moment related to the concept phase, to the
205 increasingly defined and examined drawing in its proportions, shapes, and connections between compositional
206 spaces.

207 As far as we are concerned, in the case of the documented Limarì built heritage, it is not sure whether the
208 preliminary design phase has foreseen a project idea to develop on the whole façade and afterward
209 concentrated on the details' definition or the ornaments have been added subsequently, after the completion of
210 the façade for aesthetic purposes. It is supposed that, as mentioned before, in the case of Pisco Elqui classical
211 buildings, the decorations could have been linked to artisan and master schools and that, in the design phase,
212 a foreshadowing of the façade as a whole could have been envisaged. On the contrary, in the case of rural
213 constructions of Limarì, it is assumed that the decoration could have been done by coincidence, with potential
214 connections to the personal and subjective taste of the owners.

215 With the representation comes surveying, measuring, and graphical processing to scale the built heritage on
216 the paper sheet to investigate proportions, rules, and geometries objectively and analytically. Direct
217 understanding is the only active method capable of comprehending the atmospheres that a specific place
218 evokes, immaterial artifacts that tell environmental situations related to its specific context. Particular attention
219 is given to understanding the diverse pattern scenario, produced with natural pigments and vibrant tones:
220 chromatic contrasts stimulate the vibrations, differential values to propose emphasized tonal rhythm, or strong
221 color contrast. The different chromatic variations and the effects of tonal vibrations depending on light and
222 shadows enhance tactile characteristics of opacity, gloss, and roughness. Chromatic values, often conveyed
223 with a perceptive impact, accompany the geometric rigor of harmonic shapes, especially received according to
224 horizontal and vertical paths. Among colorations, natural pigments of local earth are perceived along with red
225 hues, orange and sepia colors, and all the brown shades of local clay.

226 All the artifacts witness expertise and refined capabilities, and it is necessary to analyze, document, and
227 disseminate them to valorize their historical background and to promote their safeguard. Any cultural heritage
228 needs protection, and, firstly, it must be identified through investigation that accentuate its nature,
229 dimensions, and specific characteristics that make it unique.

230 All the dissemination operations and transmission of contents are helpful. Often, the community participates
231 in the social scenario and engages in workshop activities in which citizens are responsible for their artistic
232 treasures, being aware of their know-how and singular expressions. In Chile and the Coquimbo Region, local
233 people and artisans frequently participate in open and inclusive construction sites to educate and better
234 acknowledge the different patterns drawn on the façades, thus valorizing the tradition of their community.

235 Sometimes, anonymous artists make the ornaments, referring to popular and cultural traditions of the context
236 using suitable tools to engrave the façades: other times, the names of the architect and decorator are written
237 on top of the houses (Fig.10). Working with the drawing on the building skin is a process of urban landscaping,
238 not only exterior but also a gesture precluding deeper attention to maintenance and care of the building to
239 include the population in benefiting from the beauty of decorations.

240

241 4. Conclusions

242 This documentation stresses the need to regenerate such fascinating heritage along with the decorative façades
243 as these elements can become a social cohesion element that could generate long-term economic development
244 and foster sustainable tourism. These villages need to rediscover the artistic know-how of decorated façades
245 interpreted with modern motifs and local, ecological materials compatible with the earthen heritage to which
246 they are intimately linked.

247 This paper aims to know, document, disseminate, disclose, and promote a precious heritage of the Coquimbo
248 Region, which is not widely recognized nowadays. The results are several and challenging as they are enriched
249 by multidisciplinary approaches to research, resulting from practical and theoretical notions between drawing,

250 restoration, and technology.

251 The *Roman School*, which blends competence in history, representation, and restoration of architecture, has

252 faced the protection of heritage from the beginning with the support of experimental integrated analogical and

253 digital methodologies. Starting from acquired scientific data, recognizable and testable to represent the present

254 state of building conservation, it becomes feasible to reflect on safeguarding and valorization strategies.

255 Decorations embellish building façades and make them unique and distinguishable, with no standardization,

256 enhancing urban beautification and contributing, for their diversity, to urban orientation. In addition, they shape

257 distinctive urban skylines along the streets and in the squares because they appear as tiling and fragments always

258 varied, which offer non-continuous visuals that vibrate with light, enhancing their materiality.

259 Any façade could be attributed to a painting, a graphic, structured composition, especially those with decorations

260 around windows or above gates and doors or along the corners of the façades themselves. Those directly

261 engraved on the same material are perceivable through the play of shadows deriving from the difference of

262 thickness or, sometimes, are highlighted by different color hues in a bichromatic manner.

263 Decorations can be considered as urban reiterated calligraphies that witness the memory of cultural heritage and

264 fascinate for their original compositions. The role of representation is the narration and the story-telling of

265 architecture, places, and memories, and the pathways that can be handled by integrating digital systems of

266 representation and communication are multiple.

267 5. Author Contributions

268 While the authors shared the research in the methodology and overall contents, they contributed to the text as

269 follows: the introduction has been outlined by Natalia Jorquera Silva; the middle part of the manuscript, which

270 describes in detail the different documented decorations, by Elena De Santis; the final paragraph, also defining

271 the expected result of the research, by Emanuel Chiavoni,

272

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