

Diachronic Analysis of some Urban Spaces in Valencia by Means of Rephotography

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Abstract

The main objective of this research work is the application and study of a photographic technique called rephotography, which consists of taking a photograph from the same viewpoint as another picture that was taken in the past. This technique allows analyzing the evolution of the photographed scene over the time. To this end, a compilation of ancient photographs of different urban scenarios of the city of Valencia has been carried out. These photographs have been studied by means of a thorough graphic analysis, carried out by applying the laws of perspective, in order to accurately reconstitute the point of view of each picture. This process allows the accurate matching of the composition of current re-photographs to the older ones. After that, a comparative study between present and historical photographs was carried out in order to analyze the changes that these different urban scenarios have suffered throughout history. The graphic results of this research are intended to awaken the interest of the viewer, who can easily understand this evolution. This study also helps to recover the historical memory of places that have already disappeared or have undergone a profound transformation.

Keywords: Rephotography; perspective; photographic restitution; diachronic analysis.

Introduction

Re-photography is understood as the act of re-taking a photograph from the same viewpoint of another picture, taken previously, in order to reveal the transformations produced over the time. This is a great tool to analyze the evolution from a specific place, a building or a city. The challenge that arises has a double aspect. On one hand, the current photograph must achieve a viewpoint which matches exactly with the older one. On the other hand, the evolution process must be interpreted correctly and within its context. In order to fulfill the first condition, there are different techniques and studies that will be mentioned below. For the second, it is essential to know first-hand the reality that is being photographed, as

well as having the necessary sensitivity to adequately compare both snapshots.

The adopted strategy has its foundations in the work of the North American photographer Mark Klett, after the publication of his book entitled *Second view*, a vast project that consisted of re-photographing the landscapes of the North American West from snapshots of the mid-nineteenth century [Klett 1984]. This work has greatly contributed to define the modern concept of rephotography, and the personal vision of the author has become a guide for the development of this research. Rephotography is meant to be a sensorial experience that goes beyond the simple comparison between images and the observer has to take an active position

Nevertheless, in the case of historical images, the distortion is usually very low, as the majority of ancient cameras used the central zone of the lens to conform the image, producing a minimum radial distortion, so the viewpoint restitution would be quite accurate despite not making these corrections.

In this way, we can know exactly the point from where the original photograph was taken, place it on a map and proceed to take a new photograph with the same characteristics. We have carried out the viewpoint restitution of several ancient photographs, all of them with different characteristics so we have had to apply different procedures [2]. The graphic process used for the restitution of the point of view can be seen by analyzing the vanishing points corresponding to orthogonal edges of the scene in the case of a vertical projection plane picture (fig. 1) and in an oblique projection plane picture (fig. 2).

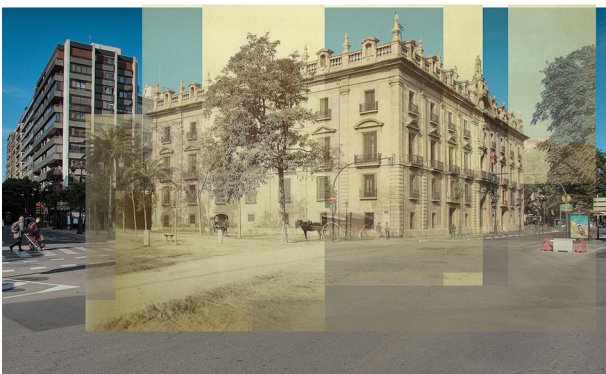
Fig. 2. Viewpoint restitution in an oblique projection plane picture.

Urban evolution and diachronic analysis

This work shows some examples from the historic center of Valencia, in which, through the comparison between present and historical images, the evolution that these spaces have suffered over the time will be analyzed. The first scenario that we analyzed was the Superior Court of Justice of the Valencian Community. The building was built in the mid-eighteenth century, standing next to the old gate Puerta del Mar, on the inner boundary of the walls. It has a rectangular plan and contains two internal courtyards separated by a large imperial-type central staircase giving access to the first floor. The exterior façade, of an austere neoclassical style, shows a balustrade surrounding the top side of the building. The balconies of the main floor alternate straight and curved pediments and the large stone pilasters complete the façade together with a brick wall, which contains blocks of stone in its corners. By applying inverse perspective geometric procedures, it has been possible to accurately restore the viewpoint of an ancient photograph, belonging to the Diaz Prósper collection, which was taken by an anonymous author and dated in 1888 [Cancer-Matineró 2011]. Thus, the aspect of the building in the current photograph is almost identical to that of the original. In the collage that it was carried out (fig. 3), we intended to emphasize



Fig. 3. Superior Court of Justice of the Valencian Community, 1888-2018.

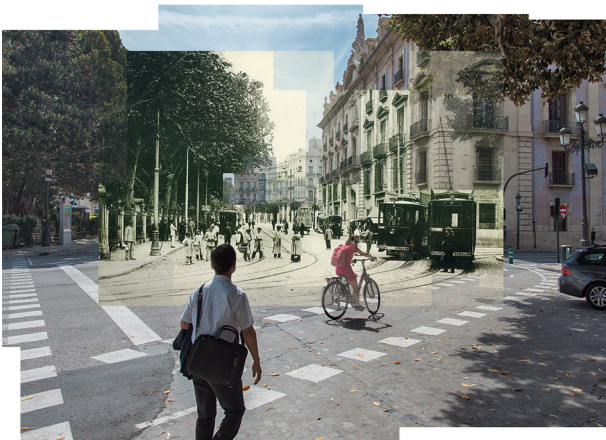


this aspect. By superimposing both photographs, we have verified that the building has remained practically invariable for more than 120 years. The play with transparency bands and the fusion between pictures show that all the elements of the exterior façade matches perfectly, since the walls have not been modified during this lapse of time, except in some minor details.

Despite the invariability of the building, we can see a great change in the surrounding environment. In the left part of the ancient photograph, you can see a small road flanked by trees that corresponds, without any doubt, to the origins of Colón Street. The strategic position of the place, at the eastern entrance of the city and in direct relationship with the port, will turn it into a nodal point of communications. This space has evolved towards the present roundabout of Puerta del Mar, at the beginning of the first great circumvallation via the historic center of Valencia, which contains the main Streets Colón, Játiva and Guillén de Castro.

The evolution of this scenario has been analyzed, in turn, through another photograph, taken from a different point of view and in an intermediate moment between the previous two. It corresponds to an image extracted from Aleixandre [Aleixandre, Serra, Catal 1998], by an unknown author and date. We can estimate the date, by the stage and the clothing, to be in the decade of 1920. The building remains unchanged, being again the urban environment, which presents noticeable differences. The evolution of this space is already remarkable with respect to the year 1888: the street has already been asphalted, even defining the delimitation between the road and the sidewalk. It emphasizes the presence of people and different means of transport that, although in the previous image they were in second plane, in this case, they are the absolute protagonists. Among them, various tramlines around the building are gaining strength, showing the consolidated urban network of Valencia with buildings on the other side of Colón Street that remain nowadays. In the assembly made from these images (fig. 4), some transparencies have been used to highlight the most important aspects. On one hand, it can be seen that both the Court of Justice and the aforementioned buildings have remained unchanged. Nevertheless, the limits of the Park of *La Glorieta* has receded several meters, giving this space to the road, denoting that the arrival of the car to the cities causes them to adapt to their

Fig. 4. Superior Court of Justice of the Valencian Community, c.a 1920-2018.



needs. The streets ceased to be a space at the service of pedestrians to become a part of a system that gives priority to cars, giving them an important part of the valuable urban land, both for their circulation and for their parking, thus changing drastically the face of the modern city.

Another case study is the Plaza de la Almoina, located in the heart of the historic center, next to the Cathedral, the Basilica de la Virgen de los Desamparados and the Archbishop's Palace. In this place, we can discover the secrets of Valencia: its surface hides the mayor archaeological site of the city. Over 2000 years old, this is the oldest and most valuable spot about the city origins.

The image assembly (fig. 5) is intended to reflect the evolution of this place through the superposition of both photographs, which partially matches in the part corresponding to the cathedral. We also tried to take the current photograph at the same day hour to match the shadows. It can be seen that the buildings at the end of the scene have disappeared giving place to the current great square. It is understood that after the expansion of Valencia beyond its old walls, the historic center suffered some regenerations, because of the precarious conditions of health and hygiene and the high density reached. The opening of large public spaces, as in the case of the Plaza de la Reina, next to the Cathedral, gave a balloon of oxygen to the city center, promoting social life outdoors. Another aspect that is clearly noticed is the elevation of the ground level. Paying attention to the ground level in the cathedral wall, it can be seen that nowadays the stone blocks are about 35-45 cm above the pavement level 100 years ago. In 1985, the subway works discovered the remains of the Roman forum that engendered this city under the square. The subsequent excavation works and construction of the new museum located in this place are the cause of this elevation change.

Another monument that could not be missed in this journey through the city history is the Torres de Serranos and its surroundings. This building is one of the most representative monuments of Valencia. Its origin dates back to 1392, when its construction was initiated by the Valencian architect Pere Balaguer, who was inspired by other constructions of this typology, such as the Puerta Real of the monastery of Poblet or the Portal dels Boters (Lleida). However, the Torres de Serranos surpassed both of them, rising as one of the best examples

Fig. 5. Plaza de la Almoína, 1870-2018.





Fig. 6. Torres de Serranos, 1888-2018.

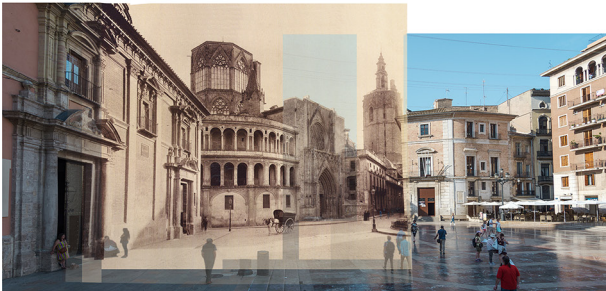
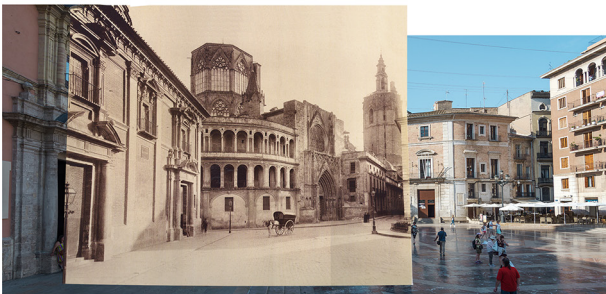
of Gothic defensive architecture throughout the Iberian Peninsula [Aleixandre, Serra, Catalá 1998].

The ancient picture taken in 1888 shows a sight of the towers from the Serranos bridge, with a lot of people, activities and movements that were concentrated in this place. Not in vain, thanks to its privileged location, constituted the main entrance to the city and that of which was used by monarchs, kings and other personalities when arriving in Valencia. In this case, the current image differs slightly from the ancient one (fig. 6). In the towers, only some modifications can be noticed, such as the elimination of certain openings on the walls present at that time when the monument was one of the prisons of the city. Also we can notice the restoration of the merlons. With regard to the urban environment, the figure of the Towers has been maintained as the protagonist of this urban scene, allowing its contemplation from the distance. Likewise, the recovery of the Serranos bridge as a pedestrian way, few years ago, is a success that recovers the historical memory of this place.

The great square known as Plaza de la Virgen has been for centuries the center of urban life in Valencia and contains also some of the city's main monuments, such as the Cathedral, that faces to this square with its lateral door, called Puerta de los Apóstoles. Beside this door, we can find the Lonja de los Canónigos with its Renaissance arcades. Next to the Cathedral, it also faces the square the Basilica de la Virgen de los Desamparados, which gives its name to the square. The ancient image by Léon et Lèvy in 1888 offers a panorama of this square showing also, on the right margin, the original House of the Changing rooms, which today has turned into a municipal library and headquarter of the famous Water Tribunal of Valencia, as well as the old fountain that occupied the central space of the plaza. In the time of 100 years or more, which elapsed between the ancient photograph and the current one, the square has suffered innumerable modifications. However, the analyzed picture has remained almost the same. That is the idea that we wanted to transmit through the assembly in figure 7, showing that the only remarkable difference is the widening of Micalet Street, after the demolition of the buildings attached to the Cathedral previously known as houses of the Canons.

To finish the investigation, we carried out a study of the perspective on a lithograph by the French artist and architect Alfred Guesdon, a virtuous draftsman and litho-

Fig. 7. Plaza de la Virgen, 1870-2018.



grapher who specialized in the bird-eye representations of cities. Guesdon made aerial views of many European cities that were published in the form of lithography collections. The collection corresponding to the Spanish cities was entitled *L'Espagne à vol d'oiseau*, and it contains two views of the city of Valencia.

We took one of these views, the one corresponding to the view on the *San José* bridge that shows the old walled city and its gateways, just before its demolition, which began in 1865 by order of the civil governor Cirilo Amorós. Only two of the gates of the old wall were saved from demolition; Portal de Quart and Portal de Serranos, since they served as prisons of the city at that time.

A thorough study of the perspective was necessary, we followed a methodology based on the study of vertical projecting planes for the restitution of the point of view [3], which was restored with enough precision. Given that the current legislation prohibits the use of a drone over urban spaces, we obtained the rephotography by means of Google Earth. We introduced the geographical coordinates of the restituted viewpoint. The image composition (fig.8) shows the comparison between the original lithography and the obtained rephotography that allows us to observe the configuration of the lost walled city, in front of the urban enlargement that the city has undergone through the different expansion plans.

Conclusions

The aforementioned relationship between image and architecture is one of the pillars sustaining this work, photography being the nexus between both. The comparison between photographs taken in the past and others taken nowadays has allowed us to analyze the evolution of many architectural and urban elements, the transformations that these have undergone and even the importance that has been conferred to them depending on the historical moment. However, it should be mentioned that the ancient photographic material determines this whole process, so its quality, its purpose and the conditions in which it was produced will significantly condition the conclusions that can be drawn from it.

The images produced from the analysis of the studied spaces in Valencia, enables us to be defenders of the

Fig. 8. Aerial view of Valencia: lithography by A. Guesdon (1853) and aerial view obtained from Google Earth.



utility of rephotography in various fields related to architecture. The meticulous work that is necessary for its production constitutes by itself an analysis of the architectural elements treated, in which even the smallest details have to be taken into account in order to obtain satisfactory results. In turn, all this work is based on an architectural basis, so a link is established between the two subjects, in which both are contributors, enriching mutually at the same time.

The visual power of the images obtained makes us think that, through them, it is possible to promote the interest of the general public, usually unfamiliar with the field of

architecture and urbanism, expanding the range to whom this work can be addressed, and thus, improving the dissemination of these topics.

Architecture is a vestige of the passage of time, which is evident, but sometimes the architects do not give it too much importance. Throughout this work it is clear how some buildings endure over the centuries, while others disappear without leaving a trace of what they once were. They all together constitute a very important source of historical information and, from them, many kind of conclusions can be drawn: not only on past events, but also on how history influences our present and our future.

Notes

[1] For further information about rephotography, see Cabezos-Bernal, Formaglini, Giansanti 2015.

[2] For further information about the employed techniques, see Cabezos-Bernal, Ci-

sneros-Vivó 2012, Cabezos-Bernal, Cisneros-Vivó 2013 and Villanueva-Bartrina 2001.

[3] For further information about the methodology employed in this restitution, see Cabezos-Bernal, Cisneros-Vivó 2018.

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