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The big windstorm of 26 December 1999 in France

The storm that occurred in France on 26 December 1999 was of rare violence, with winds blowing up to 180 kilometres per hour. It caused a lot of damage to old buildings and forestry heritage from Brittany to Alsace. The Parisian area was particularly badly hit; the most serious damages were situated in the west and east departments of the capital, especially in the Yvelines and the Val de Marne departments. Large hospital complexes that date back to the 18th and 19th centuries and are often badly maintained today suffered a lot from the storm, especially the Esquirol hospital, the hospice of Charenton (fig. 1 and 2).

Fig. 1 Esquirol Hospital, building C, detail of the storm-damaged roof

Fig. 2 Esquirol Hospital, building E with storm damage

Five weeks after the storm, an overall assessment estimated the damage at 102 million Euros. That is why the architects of the Historic Monuments Department set up an exceptional financial plan and assisted every owner of a listed or registered historic monument, private and public, civilian and military. The aim of this help was to rapidly establish a reliable estimate of the storm damage on the monuments, so it would be possible to suggest emergency measures, to evaluate the design and restoration costs and to check the estimates made for the owners by the restoration firms of the Historic Monuments Department.

In January 2000, the Ministry of Culture presented an assessment of the storm damage on the monuments (the roofing, frameworks, steeples and stained-glass windows) and on the historic parks and gardens (trees, paths, surrounding walls and basins). According to this appraisal, 324 monuments were damaged, including built heritage and historic gardens. Forty-eight per cent of the monuments suffered only minor damage and did not need more than 15,000 Euros each to be repaired. The overall renovation costs of 102 million Euros for the Paris area included the five departments of the outer suburbs of the capital.

The historic garden of the Château de Versailles represented the largest part of the financial assessment, with an estimate for exceptional financing of 91,470,000 Euros, reduced to 60,980,000 Euros after a meeting of the insurance companies. Part of the restoration work became an important extra item for the 2000 and 2001 annual programs, so that preventive measures could be taken into account wherever they were necessary.

The Hospice of Charenton—The Esquirol Hospital

Built between 1833 and 1866 by the architect Gilbert (»Grand Prix de Rome«), this monument is exceptional for its organisation and its Italian architecture, which follows the plan of the Escorial on a high slope (fig. 3 and 4).

Of 55,000 square metres of roofing on the hospital complex, 5,000 square meters were destroyed by the storm, with 50 per cent completely blown off. The central part of

Fig. 3 Esquirol Hospital, historic view

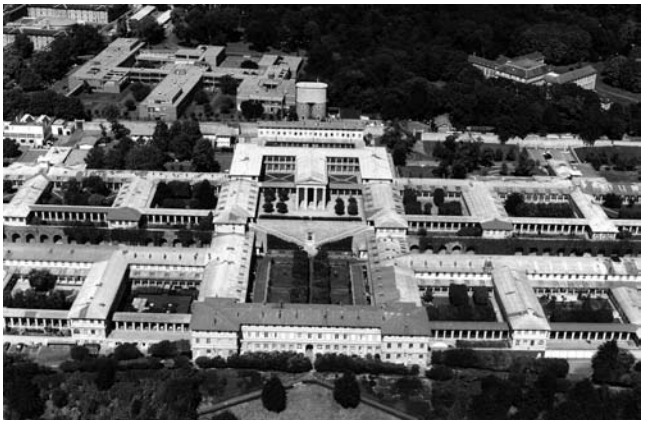

Fig. 4 Esquirol Hospital, current view

Fig. 5 Versailles, Ceres basin with storm damage

Fig. 6 Versailles, Etoile Royale with storm damage

Fig. 7 Versailles, sculpture knocked from its socle by the storm

Fig. 8 Versailles, Swiss Gate with storm damage

the building had been restored shortly before the storm, and fortunately it resisted the disaster well. The roofing of the pavilions, exposed to the south-east wind, had been restored after the 1990 storms, but was completely blown off in 1999. The aerial photo taken after the 1990 restorations could be used to determine that the roofing destroyed in 1999 was that which had been restored nine years earlier. The damaged structures showed that the roofing of the pavilions suffered from a lack of connection between its principal pieces (some tenons had disappeared, metal pieces were bolted). Big wood beams and oak rafters were without a secondary frame; fir laths were only 15 millimetres thick. Roofings are made of frameworks on a simple support on 35 cm-thick walls and jut out over 80 cm.

The park of the »Château de Versailles«

The palace's park, which was the object of an alarming forestry investigation in 1989, was damaged in 1990 during a very violent wind (fig. 5–8). Following this event, financing was set up that aimed at regenerating the bushes and the alignment of the trees.

By 26 December 1999, half the program had been realised. The storm caused the loss of about 10,000 trees, which were not replanted. These trees were 100 years old and had resisted the 1990 storm. Funds of three million Euros were immediately provided for operation of the program for which studies were already available.

The parks of Vincennes and Saint-Cloud, which also suffered from the 1999 storm, did not receive the same care and financing, and are therefore not yet completely restored.

Conclusion

Generally speaking, French historic parks do not receive sufficient funds to enable regular upkeep; they also suffer from the old age of the trees, which were all replanted at the end of the 19th century. As some trees were more than 140 years old, the public admired them and tried to prevent a clear cutting, which would normally be made once every 70 years.

The well-built structures kept and restored by the Historic Monuments Department resisted this very violent storm well, in contrast to those neglected by their public or private owners or to those that were anticipating annual funding from the Ministry of Culture.

A charter was set up with the insurance companies, which agreed to adapt their prices to the quality and the upkeep of a monument, rather than to its age and size. In January 2000 this dramatic event showed how relevant the work of the Historic Monuments Department is and how effective its agents can be, also in emergency situations.