

The great organ of Notre-Dame-de Paris - Restoration works 2012-2014

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Source: Inauguration brochure, Notre-Dame-de-Paris, 2014

It may surprise us to hear that the great organ of Notre-Dame, which underwent a thorough restoration between 1989 and 1993, requires, just over twenty years later, a new restoration. It is more appropriate to talk about partial restoration and modernisation work. The work carried out in 1993 had already contributed to the modernisation of the great organ, but this doesn't necessarily mean that this work was fully achieved on the technical level. The introduction of computer technology to run the great organ in 1992 requires the updating of such technology. But this is just one of the aspects that have justified this latest restoration campaign. Until the end of the 1980s, Notre-Dame's organ had an electric note traction system. Following the swift evolution of computer technology, it became natural that, in 1989, the organ would benefit from a modernization of its transmission systems. A multiplexed note and organ stop management system was specially developed by the company Synaptel, based on a networked set of IBM computers. This gave the organ very innovative features at the time. A few years later, Synaptel disappeared. At the same time, the computers used became obsolete, both in terms of performance and age, with the added difficulty of not being able to carry out maintenance and obtaining spare parts for expired equipment. From the 2000s onwards, the computer system was beginning to experience real reliability problems. If a Synaptel engineer had not agreed to maintain, voluntarily, the organ's computer system, this organ would have been reduced to silence several years ago. The situation could not continue any longer. In 2008, the French Ministry of Culture entrusted me with the mission of carrying out a study prior to an organ restoration work programme. The prospect of the Jubilee for the 850 years of the cathedral, celebrated in 2013, appeared as a deadline for the completion of this work. The detailed examination of the instrument led me to make a few observations:

- * growing instability of the computerised traction of the notes and stops;
- * the traditional components of the instrumental part were weakening either due to aging, or due to normal operating use;
- * the facade pipes built by Cavaille-Coll were showing serious signs of sinking that were not deemed to be particularly worrying in 1989;
- * the organ was showing signs of a large amount of dust accumulation, leading to a loss of quality of the tuning and the sound emission of the pipes, and therefore a denaturing of the harmony of the various organ stops.

Finally, the organists would like the so-called '32 note small pedal' pedalboard to become a separate so-called 'resonance', increased, of course, to 56 notes. Once the studies were completed and approved, financial backing was provided by the state. Then companies had to be called for tender, which took time. It was not possible to launch the complete work campaign from 2010, allowing for the delivery of the restored organ before the jubilee celebrations. This is why it was decided to split the work into two batches; one before the Jubilee and one afterwards. Taking its size and the restrictive deadlines into account, the work was entrusted to a combination of the two organ building workshops of Bertrand Cattiaux and Pascal Quoirin, which displayed complementary methods and skills. As the priority was to make the organ's operation reliable, the first batch of work consisted of modernizing the organ console and replacing the whole Synaptel's computer traction. The new traction was designed and produced by the Italian company Eltec. Unlike the previous traction system which was a prototype, the new traction system is an industrial product, so it has been tried and tested and was simply configured to manage Notre-Dame's organ. This new system can be regularly updated. At the same time, repairs to the sunken pipes and the cleaning of the organ were carried out. The "small pedal" was removed in view of its modification to a "resonance" board. All this work was carried out between September 2011 and December 2012.

The second batch of work took place between September 2013 and August 2014:

- * a register system motorized by high-pressure pneumatic actuators was supplied to replace Cavaille-Coll's action stop ties, put out of service in conservation mode;
- * the 18 stops of the resonance pedalboard were split into two groups in the swell boxes in the top parts of the great lateral turrets;
- * all the metal pipes and a large part of the wooden pipes were removed, cleaned and inspected, whilst all the internal parts of the organ were completely cleared of dust;
- * the pneumatic stop tie machines were completely restored;
- * the facade pipes were all consolidated by welding reinforcement plates inside the bases of the pipes;
- * all the pipes were reinstalled; the pipes were equalized in harmony, respecting the current sound state, enriched by the new stops of the resonance pedalboard. This work was carried out at night to benefit from a minimum amount of noise in the cathedral.
- * the general tuning took place from May to August 2014.