Casavant performance organ

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For example, the unique façade has fully functional wooden pipes hand-built by casavant freres artists and its design reflects the predominance of wood in Hale Helzberg, designed by Moshe Safdie. On the other hand, the gorgeous Alaskan cedar, Douglas edible, and oak in the rest of Helzberg Hall were selected acoustic Yasu Toyota for their specific resonant properties, making the hall, musicians, and organ work together as one perfectly tuned instrument. The organ was built at the Casavant Freres facility in Quebec, Canada, then dismantled and transported to Kansas City, where it was installed and underwent extensive testing and tuning. Read the interview with one of the builders, carried out during the construction of the organ. Performance As a result of this complex process of designing, building and testing, the body is equally able to perform under the orchestra, rising above it in organ concerts, accompanying choral or choral groups and, of course, shining brilliantly in solo organ repertoire. Unlike most authorities in the United States that use an electro-pneumatic action tool, mechanical tool, or tracker, the event gives the organist nuances control of the speech of each pipe, just as flute players can control their instruments' speech with their lips. The mechanical effect provides a good control over talented organists who make full use of the authority's considerable powers. It is the crown jewel of Helzberg Hall, a first-class instrument perfectly complementing the world-class facility in which it resides. According to the numbers of the four keyboards, 79 stops, 102 rank 5548 pipes, each of which had to be individually tuned the largest pipe is 32 feet tall and weighs approximately 960 pounds; the smallest is about the size of a pencil. Disassembled into nearly 20,000 pieces to transport 1,368 miles from casavant-freres workshop in Quebec to Kansas City It required 2 months of installation and 2 months of testing for voice organ in Hall william a. macpherson, college organist Wheaton Casavant is a stunning musical instrument and treasure college. It's also an amazing learning tool – and not just for those with organ lessons. I often brought my music history and class theory to the chapel. I was a guest lecturer for our course in Physics of Music and Sound, for which authority provides real-world illustrations of mechanical principles and mathematics acoustics. I had the privilege and pleasure of giving interviews to community groups and greeting listeners on the console after organ recitals. I love to demonstrate authority and ask questions, and share with you here some of the most common questions. Some might seem basic to organists and instrument enthusiasts, but the answers provide many insights into its design and historical predecessors. Why are keyboards reversed? Let's start with the question that those who look closely at the console for the first time often ask: Why are keyboards reverse color? They even asked me once: Do you have to play them backwards? Interpret that as you will - but no, ebony naturals and ivory sharp make no difference to players. The keys feel the same way! However, the appearance of keyboards says something about the historical style of the tool. The reverse colouring is intended to evoke the appearance of 17th-century organs and sefficis. Germanic names at stop knobs such as Prinzipal, Rohrflöte, and Trompete, and the headlines above the stops, such as Hauptwerk and Schwellwerk, suggest, even more specifically, that this body is in the style of German Baroque instruments. Why does the organ look like it's always been in the chapel? In 2019, Casavant is celebrating its 50th anniversary. The current authority is not the original. The first tool installed during the construction of the chapel was the renowned Boston firm Hook & Hastings. The pipe was not visible, but hidden in a closet-sized chamber high on the side walls of chancel (the area under the ante arch where the pulpit and altar table were located). The holes were plastered before Casavant was installed, but if you look closely, cracks in the plaster are visible where the chamber holes used to be. Chancel was open all the way up to his front wall (at the back of the chapel building). A tripartite Venetian (or Palladian) window that was at the far end of chancel can still be seen from the outside, on the chapel field, but is now blocked indoors by the Casavant case. What gives Casavant its sense of always being there is the color and design of the paneling, columns, pediments and other details of wood working that match the rest of the chapel interior. It is also carefully proportioned to fit the available space. Make the case look architecturally required an extraordinary amount of planning and engineering based on the size and number of pipelines and where they were to be located. In addition to drawings, body builders, especially for large tools, build three-dimensional models for their own planning and for their clients to approve them. Carlton Russell seems quite happy with this preliminary model, but with some minor adjustments, the end result is still classically beautiful. Here is the last point about the case of authority: It embodies one of the principles of Orgelbewegung. It is relatively shallow, reflecting the sound of the organ directly along the entire length of the chapel. The pipes are not hidden in the chambers on the side, as in the old organ, but they are in the actual space in which the organ speaks. Back to top ^ Why are there three keyboards? Actually, there's four of them. There are three (called manuals) for the hands, and there is also a pedal, for the feet. The often unsaved assumption behind this question is: People only have two hands, so what is the purpose of these three manuals? The point of multiple manuals is more than just a place where organists place their hands while playing. Hands can go on two different manuals (in any combination of two), or both hands can be on the same manual. More significantly, manuals and pedal boards control different divisions of authority, different groups of stops and pipes, mounted on separate twigs. These are large wooden boxes that contain air pressure and also the mechanisms needed to rent air into the pipe. Casavant has four divisions: Pedal (played, of course, on the keyboard pedal), Positiv (bottom manual), Hauptwerk (middle manual), and Schwellwerk (top manual). Hauptwerk means the main division, and it includes the authority of the most basic and loudest sounds. Positiv is a sort of Hauptwerk counterpart, a little lighter in tone, but almost as loud and bright. Schwellwerk contains the finest and scariest sounds of the organ. The expressiveness of this division is enhanced by placing its pipes in a closed chamber, which has shades, such as vertical blinds, on the front. These can be opened and closed gradually to make a smooth crescendo or decrescendo. (The organ itself cannot sound louder or softer without affecting their pitch). So, here is another principle of Orgelbewegung, as enshrined in Casavant: divisions are independent of one another. Occupy separate spaces in the case, and these places are visible on the façade. The pedal pipes are on two windchests, each running from front to back behind large pipes in the towers on the left and right. This distribution includes the lowest sounds of the organ, requiring the largest pipes (such as ten on the façade). These two towers not only provide symmetry in the construction of the housing, but also allow high weight pedal tubes to be same on opposite sides of the chancel. Windchests for three manual divisions run from side to side between the pedal towers. The cover for Schwellwerk is directly above the console. Hauptwerk is at the center of the case, and Positiv is on top. Back to top ^ Authority has more than 2500 pipes, but I see only a few dozen. Where are the others? The short answer is: Inside the case, behind the façade pipe, and more specifically, on the windchests of the four divisions. Most of the 2,500 interior pipes are much smaller (and therefore more oblique) than those in the façade. Why are there so many pipes, and how do the numbers add up so quickly? Here is an example, based on Hauptwerk. This photo shows the stop buttons on the console that control the pipes of this division: The manuals have 56 keys. Each stop knob controls a set of 56 pipes, one pipe for each key. (One set of tubes, with its own specific color tone, is called rank). The exceptions are the two stops at the top left, Mixtur and Scharf, marked with the Roman numeral IV. For these stops, pressing one button activates four separate tubes (all of them quite small and high in pitch). So, quite that. Count the stop knobs (ignore the one at the bottom marked Positiv on Hauptwerk), multiply by 56, and then add to the other three rows 56 in both Mixtur and Scharf. The answer to this mathematical problem is 952 - the number of pipes in only this one division. This photo shows the central part of hauptwerk windchest, where the smallest pipes of each stop are located (lines continue on both sides). You can see different rows of pipes sorted in rows. These 11 rows of pipes are controlled by the following stop knobs: (1) Prinzipal 8' (the pipe shown in this photo is directly behind the Hauptwerk façade tubes, which also belong to this stop); (2) Quintaden 16; (3) Rohrflöte 8; (4) Oct 4; (5) Spitzflöte 4; (6) Oct. 2; (7) Blockflöte 2; (8) Mixtur IV (one group of 4 pipes corresponding to one key is circled); (9) Scharf IV (one group of 4 pipelines is circling again); (10) On 16 February 2002, Fagott was 16. (11) Trompete 8.11 set tubes all sound different from each other. For one thing, they represent different types of organ tone: Principle (typical, basic organ colour, e.g. Prinzipal 8'), Flute (as Rohrflöte 8') and Reed (as fagott [Fagott [Bassoon] 16' and Trompete 8). The specific color is determined by the shape, construction and proportion of the pipe. Secondly, they speak in different octaves, marked with an Arabic numeral. 8' denotes normal pitch, 4' means that the entire rank says octave higher, 2' additional octaves higher, and 16' octave lower than normal pitch. To sum up, within 11 set of pipes in the Hauptwerk division (numbering 952 pipes in total) there are several different tonal colors and several different octaves ranges. Take a look at the specification of the whole body – list for all four divisions. Each division contains stops of different tone colors and stops in different octave ranges. This is the embodiment of the Orgelbewegung principle of several independent, equally important mini-bodies within one great instrument. Each keyboard plays one of these mini-bodies, ie divisions. Back to top ^ How does it all work? We have one more important principle of Orgelbewegung to cover, and this is a preference for direct mechanical connection between the keys and the pipe. The key action at Wheaton's Casavant is mechanical. When the player presses the manual or pedal button, the opposite end picks up the connecting wire or a thin metal rod. This action is transmitted by other wires and rods, as well as thin wooden strips, called trackers. (Therefore, mechanical action is often called tracker action). Here's what the back of the console looks like: the bars at the top of the photo go from Schwellwerk's back keys up, toward his windchest. The bars and wires at the bottom of the photo are attached to the keys of the lower two manuals, Hauptwerk and Positiv. They continue downwards towards the floor of the organ chamber. There is an action turned 90 degrees, towards the back of the chamber. Then it is rotated 90 degrees again, up through the trackers towards the windchests of these two divisions. Recall that the positiv division is at the top of the case, so the total length of its action is about 30 feet from the key to the windchest. Careful engineering makes it amazingly light and responsive. Once the rods and trackers reach the bottom of their wind, they connect with wires that pull down and open valves (called pallets) that allow air into the pipe. The trackers in this photo are connected to pallet wires emanating from the bottom of the Schwellwerk wind. Pallets allow air to flow into wind channels that run from front to back in the wind. There is one wind channel for each pitch on the keyboard. Here's hauptwerk windchest again. Dotted lines indicate the position of three (out of 56) wind channels in the chest, corresponding to the highest D#, E and F on the hauptwerk manual. One last problem to solve: How to stop buttons checking specific rows of pipes? If there was no way to do this, the air in the wind channel, say, the highest F would cause the highest F pipe in all rows to sound. This is a stop action function (as opposed to a key action). The Wheaton Casavant is electrically operated. Below each rank of pipe and above the wind ducts is a long wooden strip, called a rider, running from one end of the windbreaker to the other. The sliding bar has 56 holes in it, matching the foot position of the 56 pipes in sequence. When the sliding bar is positioned so that its openings correspond to the holes in which the pipe sits, then air can flow into this position. When the sliding aid is slightly pulled to the side, the openings do not match and is prevented from flowing into the rank. Pulling out the stop knob on the console activates the electrical switch that sends the current to the electromagnetic motor. The engine pulls the mover to move it to the open position. Slide the slider off to the closed position. Here are some sliding engines in the pedal division: Before electricity was available, both key actions and stop action had to be mechanical. So, for example, in Bach's time, pulling out stops meant really pulling them out - a long way off - because this heavy mechanical action had to be handed over to riders. Large, modern organs (such as the Wheaton organ) that are affected by the movement of organ reform retain mechanical key actions, because the player can actually feel it in his fingers, and this allows sensitive, sensitive touch. Stop the action does not feel at all the player; It's simply a way to turn stops on and off. As in Wheaton Casavant, stop action is often electrified. The electric stop action also allows the inclusion of a combination of action by which the player can preset different combinations of stop. Read about the combined action on wheaton organ here. Back to top ^ ^