



The King of Instruments (Transcript)

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ESO Offstage - Episode 5

Max Cardilli (00:00): Welcome to ESO Offstage! I'm your host and ESO double bassist Max Cardilli. In this episode, I'd like to give you an introduction to what Mozart once called "The King of Instruments". Need a hint?

[MUSIC - 00:16]

Max Cardilli (00:46): To help us explore the history of this unique I've enlisted the help of a familiar voice to ESO audience.

D.T. Baker (00:55): My name is D.T. Baker, and I think that since Bach was alive, I have been writing program notes and doing pre-concert lectures as part of my job with the Edmonton Symphony Orchestra.

[MUSIC - 01:08]

D.T. Baker (01:11): The fact that we use the word organ to describe both the magnificent musical instruments, but also the intestines, for example, speaks to its rather nonspecific roots. And in fact its ancient original Greek meaning was more or less along the lines of "that with which one works, or uses," making it quite a catch-all.

In only a few centuries, however, the Romans had decided the word more specifically meant a musical instrument; however, they applied it to mean pretty much every musical instrument. The instrument that we know of now as the organ was already around, and most who have plumbed its history seem to agree that takes us back to Greece circa 200 or so B.C. Some histories I've read even ascribe a specific Greek, a man named Ctesibius, as its inventor. But I suspect that's a little like saying Columbus discovered America. He was involved in the process, no doubt, but I'm not sure you can credit one man – especially that far back.

The notion of forcing air through a tube of a specific length and circumference in order to create a specific pitch is not only an ancient idea, it's pretty universal. I don't know of a culture in the world that doesn't have an instrument that does that, I don't know of a culture in the world that doesn't have an instrument that does that. It applies to everything from a pipe organ to a flute to a trombone, of course. But with an organ, and indeed with any keyboard instrument, the difference is that a mechanical interceder is used to quite literally manipulate – and I say literally as "manipulate" means to use the hand to act upon something – the sounding of the pipes.

The ancient Greek instrument was powered by water, into which air would be pumped, and from which pressurized air would be sounded through the tubes. It's actually quite a



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mechanical marvel, in its own way – but that has been a characteristic of organs ever since. It's also fairly cumbersome, and by the last century B.C., we get references to a bellows system being used to pump the air rather than water pressure.

I think many of us still tend to think of the instrument as being most at home in places of worship. And the grander the edifice, the grander the organ built for it must be. But this was certainly not always the case.

For one thing, while singing – psalms and hymns of praise – seem to have been part of the early Christian church dating back to its Jewish roots and earlier, the use of instruments in the early church seems to have been frowned upon. There's a book called *The Story of Christian Music* which quotes a fourth century manuscript, saying: "[I]n blowing on the tibia [pipes] they puff out their cheeks ... they lead obscene songs ... they raise a great din with the clapping of scabella [a type of foot percussion]; under the influence of which a multitude of other lascivious souls abandon themselves to bizarre movements of the body."

This was by no means universal. The parts of the faith that were more in the Middle East tolerated some instruments – the lyre, it was argued, had been played by David, after all. Further west, not so much. St. Jerome regarded any instrument as a pagan influence.

But the church did relent, though very gradually, to the use of instruments in praise of its god. There's a tantalizing bit from someone named Odo, who was the Abbott of Cluny in eastern France, which dates from 942 A.D. about monks being accompanied in their singing by a hurdy-gurdy, which uses a keyboard-ish mechanism to play upon strings. But the instrument that led the way for music in the church (meaning both of the Catholic Church and inside the actual buildings), beginning in about the 10th or 11th century, was the organ. It was already used to summon people to church, and now it began to accompany music for the mass.

The instrument itself was a much rougher version of what it would become, and part of the reason for that is that there was very little in the way of standardization. While only a few instruments from the pre-Renaissance are around in any form, those that are show a number of interesting features. The size of the key used to sound a pipe, for example, was not only not standardized from instrument to instrument, but was not standardized even on its own keyboard. A much larger key might be used to sound a larger pipe, and early performers of the instrument describe using all kinds of ways of getting to all the notes, including using the fists, the knees – whatever total body workout was needed I guess to make the music.



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Another limiting factor was that harmony was still a bit of a thorny issue for the early church. Certain sound combinations were considered more allowable than others, so the range of notes available on early organs was limited to what was permissible. But as the middle ages gave way to the Renaissance, all heaven(?) broke loose, and music praising god became more and more intricate, elaborate, and grand. The Reformation kicked off a real “our composers are grander than yours” bit of competition as well, and while pride is considered one of the deadly sins, to have the grandest music, and the grandest organs upon which to play it, seems to have been very much a matter of pride among churches.

The organ is the ideal instrument for this, of course. Each organ was custom built for the space, and more space meant more organ. More pipes, more ranks, more manuals, whatever could work. In the days before orchestras were even really a thing, a cathedral organ could make sounds that nothing else could compete with.

And of course, with money and power and bigger and better comes fancier and gaudier, and an organ is a helluva thing to dress up. There are Byzantine and Baroque stories of men of power and wealth throughout Europe and the middle east having organs designed with gold and jewels, given as gifts or built as status symbols. They could also play music, but that was hardly the point of these instruments anyway.

Max Cardilli (07:59): You don't necessarily need to take a long trip to find a wonderful organ - there is one housed here at the Winspear Centre with a very special story.

D.T. Baker (08:08): When the organ made its public debut in 2002, the first performer to present a complete solo recital on it was Christopher Herrick, the renowned British organist who is quite well known for his series of recordings on the Hyperion label called Organ Fireworks. This series would feature him playing all kinds of bravado organ pieces on some of the great organs around the world. Well, after he played his solo recital, he went back to the U.K., and told the folks at Hyperion that his next Organ Fireworks recording would be done on the Davis Concert Organ. And he came back the following year, and recorded Organ Fireworks X on our wonderful instrument, and we're quite proud of that.

[MUSIC - 09:12]

Jerrold Eilander (09:22): My name is Jerrold Eilander. I am the Orchestra Operations Manager for the Edmonton Symphony Orchestra. I'm also the Organ Curator for Canada's largest concert pipe organ the - Davis Concert Pipe Organ.

Max Cardilli (09:36): Now why is it called the Davis Concert Organ?



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Jerrold Eilander (09:39): Oh, I love telling this story. It's just...yeah, I'm smiling underneath my mask that I have on right now as I'm telling this. Back in the 80s, an Organ Committee formed as a subgroup from the Intent Concert Hall Foundation that was building the Winspear Center. They developed this Organ Committee, that was based of many organists in the city, to put together their ideas of what an organ should be in a Symphony Concert Hall. They had money put aside for it, but it was never enough. Then one day, this gentleman knocked on our door and asked if he could talk to somebody about donating some money to the Organ Fund. So, the Security Officer called somebody from upstairs and said, "hey, we have somebody here that wants to donate some money." Sure enough, it was this gentleman that wants to donate over a million dollars! [laughs] We said "well, let's go upstairs! Let's have a cup of coffee and talk about this."

This gentleman was a subscriber for the Symphony since 1957, and his name was Dr Stuart Davis. He was a Chemistry Professor at the University of Alberta and him and his wife Winona went to the Symphony - to the Jubilee Auditorium - since 1957 when they got married. So, that was part of their fabric of who they are. They loved music so much but, in 1994 Winona passed away. Dr. Davis bought a ticket and he sat up in the top balcony and he saw this empty space at the back of the orchestra that needed an organ. His friend said, "okay, you're 81 years old. What are you gonna do with your money? Why keep it in your will? Why don't you do something with it now when you can actually hear it?" That's why he decided to knock on our door at the Winspear.

Going back to the Organ Gala in 2002, Dr. Stuart Davis had asked if he could come to the Dress Rehearsal - where there was 65 musicians in the Orchestra, and the organ was playing, and everybody was involved. It was such a celebration of community spirit and, after the rehearsal was done, he walked up to the side of the stage and he says "thank you so much. I have to let you know whenever I hear this organ play I hear my wife's voice sing." I mean, it's really the Winona Davis Concert Organ. This probably would have sat empty if it wasn't because of him. He was the largest Arts Philanthropist in the country in 2000.

It's the jewel of the Winspear because it's this beautiful thing that kind of completes the Concert Hall. Anybody who's been here before without it would know the difference - where they had this blue empty space where we kind of lit corporate logos to now fitting this magnificent instrument that has oh, I think 1500 pipes on the outside - but really it has 6551 pipes in all.

I've heard people say this instrument is the king of instruments. It can do everything! Sure, it may look a little bit scary to some because they just don't know enough about it



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but they want to know about it. [laughs] I think part of it's because they have these beautiful trumpets that are sticking out. These trumpets are called *en chamade* and it's often said they're so loud it's enough to part your hair!

Think of an organ as sort of like a furnace in your house. If the house gets colder, you want to turn up the heat. Once you turn up a thermostat a fan gets in motion inside your furnace to create wind to kind of heat up your house. It's the same thing for the organ. Here, you turn on a switch - there are four blowers in the blower room that turn on and it pushes wind through wind ducts. The wind ducts then go to the reservoirs to hold the wind, and then from there there's more wind ducts that go to different rooms inside this instrument - just like rooms in your house! That wind then gets transferred to the wind chest, which is where all the pipes are sitting on, and so you have to just press a key and then the wind just goes to that pipe that you designated to or which ones you're playing.

Like I said this has 96 stops. Think of it as a painter that's trying to create a portrait or a landscape painting and has all these different colors to choose from. and dabbles a little bit of orange, a little bit of yellow and some red and some purple to create this sort of color. The same thing happens as an organist - you have all these different colors to choose from to create this sort of painting.

Max Cardilli (14:08): From what I understand there's a key, and it's almost like an ignition in the car?

Jerrold Eilander (14:13): It's very tiny - look - it's really small. I actually think it's the same key that works for every organ because it looks the same as any other one.

Max Cardilli (14:24): You can't really steal organs! [laughs]

Jerrold Eilander (14:26): Yeah [laughs] It's really is it's not going anywhere! But yeah, the blower room is actually behind a concrete wall that's beside this instrument and so you can kind of hear from a distance the wind blowing through. If we open up the doors you'll be able to see the wind bellows actually, lifting up. One of my favorite stops is the tuba - not every instrument gets to have a tuba and if they have one most often it's not in a box. But in this instrument this tuba is in a box and you can just use one of your foot pedals to close the box to make it sound quieter. It's so beautiful. Tuning it is not so beautiful! It is so loud it makes your ears ring.

[MUSIC -15:38]

Jerrold Eilander (15:40): Another one is the clarinet - it's such a gorgeous clarinet.



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[MUSIC -15:44]

Jerrold Eilander (15:45): The big reeds on the great.

[MUSIC - 15:48]

Jerrold Eilander (15:52): They have all these 16-foot pipes that just make a grumble.

[MUSIC - 15:57]

Jerrold Eilander (16:02): They have this beautiful string section - the quietest ones are on the *positive*.

[MUSIC - 16:09]

Jerrold Eilander (16:20): And then a sort of little bit bigger sound comes in the swell division.

[MUSIC - 16:24]

Jerrold Eilander (16:32): The big orchestral strings are in the big *bombard* division.

[MUSIC - 16:36]

Jerrold Eilander (16:44): You can put them all together on one keyboard.

[MUSIC - 16:48]

Jerrold Eilander (16:57): There's a whole array of flutes - the big flute *harmonique*.

[MUSIC - 17:02]

Jerrold Eilander (17:09): There's a chimney flute.

[MUSIC - 17:11]

Jerrold Eilander (17:16): Those are all eight foot ones. Now, you get smaller ones that are the four-foot flutes and then it's beautiful two- foots.

[MUSIC - 17:26]



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Jerrold Eilander (17:32): Then the smallest pipe - like it's really smaller than a pencil that you have at home - you'd never play that on its own.

[MUSIC - 17:37]

Jerrold Eilander (17:43): You need it with other pipes to make it sound properly. Now there's the Spanish trumpets that we talked about before.

[MUSIC - 17:54]

Jerrold Eilander (17:59): That's just one of them and there's a whole two other octaves of them.

[MUSIC - 18:03]

Jerrold Eilander (18:09): There's also another one called the bombard.

[MUSIC - 18:12]

Jerrold Eilander (18:20): There's a whole bunch of other reeds that you add to it.

[MUSIC - 18:22]

Jerrold Eilander (18:29): Pedals - you always think that that's the base of the instrument, but actually it has some of the most beautiful little pipes as well.

[MUSIC - 18:37]

Jerrold Eilander (18:44): You can put the melody in your feet, it doesn't have to be just the foundation. All these keyboards - there's four for your hands and one for your feet - you can exchange all these keyboards and put it all together with all these different tablets that you see in front of me. So, the principal stops here...

[MUSIC - 19:04]

Jerrold Eilander (19:09): ...is the foundation of the instrument, and then it just kind of builds from there.

[MUSIC - 19:13]

Max Cardilli (19:33): Oh, you feel that in your chest!

Jerrold Eilander (19:35): You feel it in your chest, and everything rumbles!



Max Cardilli (19:39): I felt like I was gonna need to take my inhaler. [laughs]

Jerrold Eilander (19:50): If you climb all the way to the very top of this instrument you'll see the signatures of all the people who assembled it. It's just what you do in the organ world. There's some images of cats and people's faces and caricatures and all that kind of stuff - which is really awesome. I play organ for First Baptist Church here and they have a 1955 instrument. Létourneau just happened to be the one the contractor to rebuild it about four years ago. The gentleman that I know went over to First Baptist Church to disassemble it and assemble it and they saw their father's names on that instrument and it just kind of came to life to them. It's like, wow, all this knowledge gets carried on from generation to generation. Things haven't really changed much in 350 years. There's a book out of France about how to build pipe organs from 1736 I think it is. All organ builders use that book

Andrew Forrest (20:49): It is a book on The Art of Organ Building by a monk. Dom Bédos de Celles is the author of this book. It's got some just absolutely beautiful artwork in it. I mean, they're the technical designs and section views through pipe organs done by hand. It tells you, with 18th century technology, everything you need to know to build an 18th century pipe organ in the French style.

My name is Andrew Forrest and I am the Vice President and Artistic Director for Létourneau. I've been with the company for 22 years and I know the Davis organ very well. The organ plays with sound and acoustics and spatial perception in a way that many instruments can't even touch - I think that's what really attracts me to the instrument. We often say that, you know, the most important stop on any pipe organ is actually the room. It's something of a cliché in the organ business, but it's true, it's absolutely true. The organ has to be adapted to the room that it's in, and you really need to take advantage of the room's qualities to make a successful pipe organ.

Max Cardilli (22:07): In the building of an organ like the Davis Concert Organ, where you're building it across the country and you're not necessarily building it in the space that it's destined for, how do you how do you negotiate the acoustical properties of a space that that is so far away?

Andrew Forrest (22:23): In some cases, not the Davis per se, but in some cases you could go to the space and get a sense of what the space is like before the instrument is built. In the case of the Winspear Center, well the building really wasn't finished before some decisions had to be made about what the instrument was going to sound like. But in working with the Acousticians and the Architects we had a pretty good sense of what the hall was going to sound like, and so could design the organ accordingly. There's that the other question that as an organ builder we have to ask ourselves - is okay, how is



this instrument going to be used? A Concert Hall Organ is a very special breed. There are excellent pipe organs in churches across the country, but an instrument in a concert hall has to do more than a church organ. Because the Symphony Orchestra is sitting right in front of the pipe organ, and the instrument has to blend just superbly with the symphony at times. It has to be sort of in dialogue with the Symphony. It needs to be able to match the Symphony decibel per decibel, all that to say. The instrument in the concert hall needs to be powerful when needed, but also needs to have a lot of color and dynamic control built into it.

We have teams that just specialize in installations. Depending on the size of the instrument it can take two weeks, it could sometimes take three months - it just depends on how large the instrument is. The Davis organ was installed in two phases. The first phase of the instrument was installed in 2001, and I was part of the team that was in Edmonton installing the facade of the organ in the hall. Then in the summer of 2002 there was another team that came out to Edmonton and installed a good portion of the organ behind the facade. Then the instrument was ready to play later that fall for the instruments opening and with the Edmonton symphony orchestra.

[MUSIC - 24:35]

Max Cardilli (24:54): How do you tune an organ like this?

Jerrold Eilander (24:56): It takes about 50 to 60 hours to re-tune the entire instrument. Like I said, there's 6, 551 pipes and we touch them all. There's a main sound that every organ is built on. There's different languages - it's called *diapason* or *prestant* or an *octave* or in French *montre*. That is the basis of your instrument, that you tune the whole entire instrument around. The way to tune it is, like, open up a can of spam - when you grab a key and you scroll that metal around, that's the same way as how you tune that pipe. There is rolled metal at the back of it, and you move that scroll up or down to get it at the right pitch. With flute, flutes have either a cap that's inside the pipe or that's placed on the outside, and you adjust that cap to get it to the right pitch.

A trumpet, or an oboe, or trombone, or bassoon, or bombard - those kinds of reed sounds. They have a metal wire that is on the outside of the pipe, that you adjust up and down. Inside the wind chest, at the bottom of the pipe, that wire is attached to a tongue. The tongue is kind of like a reed on a clarinet - but to clean it there's a whole other story.
[laughs]

Max Cardilli (26:18): Do you ever go inside just to collect your thoughts or think?



Jerrold Eilander (26:22): Oh yeah, absolutely. One of the organ builders actually proposed to his fiancée inside this instrument!

D.T. Baker (26:34): The means by which the proper sound is made in any organ is dependent upon any number of ingenious mechanical, electric, hydraulic, or electronic contrivances.

I'm told I'm allowed to mention an online course I will be presenting beginning March 1st – details on our website, winspearcentre.com – which I've called The Beautiful Machines. It's a history of keyboard instruments, as well as the great composers and performers. And I deliberately chose the name Beautiful Machines because of the great breadth of amazing music that has been written for keyboards, but also because I argue that, in the western musical tradition, no other instruments have benefited as much from technology as have keyboard instruments. Just look at the sheer number of instruments that we call organs. Mention an organ to a lover of Bach or Messiaen, and the great cathedral instruments with vast numbers of pipes rumbling with the voice of god come to mind. But mention organ to a rock n roll lover, and it's the Hammond B3 or C3.

Our own Davis Concert Organ at the Winspear Centre, for example, is the perfect, late 20th century combination of new and old. Air is still forced through any or all of its 6, 551 pipes by means of blowers, but the blowers are powered by electricity. A full range of registrations are available, of course, but those registrations can be saved digitally, so that they can be instantly recalled by means of a hard drive.

Andrew Forrest (28:21): There have been a number of innovations - the biggest one is probably just electricity. Starting with organ blowers that replaced people who either operated hand pumps or or foot pumps. Sometimes you had three, four people all pumping to keep a large pipe organ playing! But the other thing that sort of ushered in is that with electric blowers, well, suddenly it became possible to get higher and higher wind pressures. Organ builders at that point then began to explore louder and more powerful tones and timbres from the instrument. Electricity also allowed the separation of the organ console from the actual instrument. At the Winspear Centre, of course, you've got a console on the stage that can be moved just about anywhere on the stage and plugged in. You can play the organ from that organ console. That is all done today through a closed computer network. The console issues a command, and the organ responds - previous to that when you would sit at the organ console, it was within the organ case. You would play a note and there was a system of levers and trackers or very sort of narrow strips of wood that connected the key. You were playing with your finger through the instrument to the actual valve that allowed the wind into the pipes. Some of the 17th and 18th century instruments in Europe - and some of the mechanical



instruments here in North America too - you step inside and it's just astonishing, the thought and the complexity and the engineering that's gone into making this instrument play. It's phenomenal!

Max Cardilli (30:01): I guess there'll be a move to Bluetooth soon enough?

Andrew Forrest (30:04): The technology does exist, certainly. There are already wireless organ consoles. The day that my phone and my Bluetooth earbuds stop dropping out and then coming back, that's the day that I'll start subscribing to the idea of organ consoles by Bluetooth. Until then I think we should stick with cables and wire. I'll just feel better about it. [laughs]

That's something that I've learned, if somebody tells you that they know everything there is to know about pipe organs be very, very skeptical. No one person can know everything about pipe organs. We have a big enough team that we can really specialize in just about every area. So, we have people who are experts on wind systems, we have people who are experts on wind chest design, we have people who are experts in pipe making, we have expert voicers. If there's a question that really surpasses my level of knowledge about something - well, then, it's easy to turn to someone else and say "can you fill me in on what I'm missing here?" That's one of the great things about our team.

Max Cardilli (31:11): How big is the team?

Andrew Forrest (31:12): Right now, we are at 30. 30 people, that's about as much as our workshop will take. The shop is sort of packed to the gills with organ parts, and people, and so we're always doing a bit of a fine dance with our instruments in the shop. If you just look at the facade of the Davis organ there's pipes that are 40-feet tall in the facade! So when those are lying on their side to be polished - well you need a very large room to do that!

[MUSIC - 31:38]

Max Cardilli (31:47): What would you like people to know about the organ?

Jeremy Spurgeon (31:50): Well, I'd like people to know - if they don't know anything about the organ - I'd like them to know that it is an awesome instrument to play, and I think some pretty amazing music has been written for it, and I would like more people to listen to good organ music played well on a very fine instrument - and what better instrument than Winspear!



[MUSIC -31:13]

Jeremy Spurgeon (32:20): I'm Jeremy Spurgeon - I'm organist of All Saints Anglican Cathedral here in downtown Edmonton. I've been here for a number of years - let's not go into how many years that is. I direct the choir as well here, I play the organ with the Edmonton Symphony Orchestra from time to time as and when required, when there's an organ within a composition. I was inspired to play the organ when I was very, very young and I was listening to a radio program on BBC Radio - well, actually, back then it was BBC Home Service it was called. There was a program called "Down your Way" in which listeners were interviewed, and then after the interview he would say "and which piece have you chosen for us?" to listen to. Somebody chose *Toccatà and Fugue in D minor* by Bach and so it was played on the radio. I was transfixed and I thought to myself "I want to play that piece." Of course, I hadn't even started organ lessons yet - but I want to play that piece, that sounds fantastic! So here I am many years later and I do in fact play that piece!

[MUSIC 33:38]

Jeremy Spurgeon (34:18): I'm just thrilled by the wonderful symphonic sounds an organ can make. I should say that playing the organ, you have to be accurate. Ideally, you have to be accurate, because if you're not everybody knows about it! Basically, it's a potential minefield because I could at any moment hit the wrong thing, or just have a slip, and then it's really obvious. So an organist ideally has to be completely accurate.

Max Cardilli (34:54): It takes a lot of concentration?

Jeremy Spurgeon (34:56): It's a lot of concentration. Sometimes I concentrate so much I make a slip, which is unfortunate.

Max Cardilli (35:03): I've never heard you make a slip before.

Jeremy Spurgeon (35:05): Well...anyway, moving on! [laughs]

Max Cardilli (35:10): Organists need to avoid "slips" in both their hands and feet. One thing that helps is having proper footwear.

Jeremy Spurgeon (35:18): Footwear, that's important. Sometimes there's quite a big gap between one note and the next and perhaps you have to play legato or something so you have to be able to bridge that gap, so you wear a shoe with a good heel. This is about an inch just an inch and a quarter heel that I'm wearing. Actually I'm wearing a dancing shoe - it's a soft leather dancing shoe. You have to be able to feel your way



around on the pedalboard - especially if you're playing the works of Marcel Dupré. I played his *Prelude and Fugue in G minor* once. In the Prelude you've got chords played by the feet. There's four notes in the chord.

Max Cardilli (36:02): So, how do you achieve that?

Jeremy Spurgeon (36:04): Well, by playing top of the chord with the toe, and the next note down with the heel - either heel and toe or toe and heel - you just have to work out what works.

Max Cardilli (36:14): Manipulating these stops - is it dictated by the music, by the composer?

Jeremy Spurgeon (36:19): Oh yeah, in some cases, yes. For example, in Baroque Music in say, the music of Buxtehude or Johann Sebastian Bach they don't indicate anything, I don't think, because you knew back then the sounds that were required to play that sort of piece. Okay, so if you were playing a big *Tocatta and Fugue* or a *Prelude and Fugue* of Bach, I think you probably know that you're going to play on what we call an *organo pleno* which is a full sound composed of probably an eight-foot pitch, a four-foot pitch, two-foot pitch, and maybe a mixture.

So, that's mostly for the big works of Bach, but then later on - for example, Olivier Messiaen in the 20th century and César Franck in the 19th century - they would always put at the top of their music and throughout the music the registration directions. Especially Messiaen, he was very particular - he says this is what you use for this piece.

Max Cardilli (37:23): So now when you say eight-foot stop and two-foot stop what is this? What does this really mean?

Jeremy Spurgeon (37:29): Okay, so the organ is full of ranks of pipes. Long lines of pipes. You can see them if you're sitting in Winspear - you can look up and see all the pipes in front of you. Eight foot pipes are the longest pipe as you go up and up the scale, of course, the pipes get smaller and smaller - because the smaller the pipe the higher the sound. So, here we have the eight and the four and the two-foot. Eight, four, two. So, here we have a chorus, we've got a chorus of three voices - and they all sound like this.

[MUSIC - 38:06]

Jeremy Spurgeon (38:11): But it sounds like one homogenous sound, doesn't it? Just sounds right. It could be this



[MUSIC - 38:20]

Jeremy Spurgeon (38:23): They're all in the eight-foot rank. Here's the four-foot.

[MUSIC - 38:28]

Jeremy Spurgeon (38:31): And the two-foot added.

[MUSIC - 38:33]

Jeremy Spurgeon (38:38): I could get complicated and talk about a mixture stop. In the mixture stop there are three ranks of pipes within this one stop. So, there's three ranks - but they're all harmonics of the fundamental. Here's the fundamental.

[MUSIC - 38:54]

Jeremy Spurgeon (38:38): I could add.

[MUSIC - 38:59]

Jeremy Spurgeon (39:01): Actually there are three ranks sounding there. There are three ranks.

[MUSIC - 39:06]

Jeremy Spurgeon (39:10): Okay, there are three sounds you hear - but they're all harmonics of the fundamental. So, if you add that into the mix - a very organistic sound, that we're very familiar with.

[MUSIC - 39:20]

Jeremy Spurgeon (39:25): Interesting thing about pipe lengths - there is a pipe called the *nasard*, which its bottom pipe is two and two thirds-feet long.

[MUSIC - 39:40]

Jeremy Spurgeon (39:41): I'm playing bottom C but, of course, it's playing it's playing the fifth - it's playing a fifth of the scale. So here's middle C.

[MUSIC - 39:49]

Jeremy Spurgeon (39:52): Even funnier, here's the stop called the *tièrce*, and of course it's one and three fifths-feet long. I'm playing bottom C.



[MUSIC - 40:06]

Jeremy Spurgeon (40:07): So it's a third, and now I'm going to add the *nasard* which is the fifth of the scale.

[MUSIC - 40:13]

Jeremy Spurgeon (40:14): And now I'm going to add the fundamental so I've got three stops drawn. And you can hear three sounds!

[MUSIC - 40:26]

Jeremy Spurgeon (40:26): But, as I go up the scale those three sounds are going to meld together, and you'll probably lose track of where those three sounds are, and maybe you'll just hear one sound - but it's a very colorful sound.

[MUSIC - 40:42]

Jeremy Spurgeon (40:51): Okay, but here it is broken down. I'll break it down for you.

[MUSIC - 40:54]

Jeremy Spurgeon (40:55): Here's the eight-foot and the *nasard* and the *tièrce*.

[MUSIC - 41:03]

Jeremy Spurgeon (41:07): If I move...

[MUSIC - 41:08]

Jeremy Spurgeon (41:12): We lose the three - but it just becomes a beautiful, rich, colorful sound.

Max Cardilli (41:17): Where would you find that in the literature?

Jeremy Spurgeon (41:19): Quite a lot. In Olivier Messiaen he often prescribes *tièrce* and the *nasard*.

[MUSIC - 41:26]

Jeremy Spurgeon (41:30): He's very specific, and you have to have those sounds.

[MUSIC - 41:33]



Max Cardilli (41:37): What's it like when you see a finished product?

Andrew Forrest (41:41): Overwhelming, usually it's one of the best feelings. I mean building a pipe organ takes so much time for the entire team. For the Davis Organ for example, at one point I did some calculations and I think I think it was over 50 000 hours of work to build the instrument. When you put that much time into something, and it's sort of been a preoccupation in your mind for years and then finally you see the finished product, it's tremendous. It's overwhelming to sit at the organ console and play the instrument and sort of explore all the things that you'd imagined for it, and to realize that yeah, yeah, this is exactly what I had in mind. There's nothing for it. It's just fantastic, it's a terrific feeling.

Max Cardilli (42:28): Here's the wonderful Jeremy Spurgeon again, in true organ fashion, with a postlude for this episode.

Jeremy Spurgeon (42:42): I played this piece yesterday but I played *Ach bleib bei uns, Herr Jesu Christ*, which is one of the Schübler Chorales, so-called Schübler Chorales of Bach. Actually, five out of the six of them can be found in his *cantatas*. So, actually, this piece was originally written for soprano, cello, and basso continuo - and I think it sounds pretty nifty. It sounds like this...

[MUSIC - 43:13]

D.T. Baker (43:52): I'll finish off with one more story about the early days of the Winspear Centre's Davis Concert Organ. When the artisans from Orgues Létourneau were in the months-long process of installing the organ in the Winspear Centre, it was decided to have a bit of a public presentation. Now, this was still a year out from the actual 2002 debut of the organ, but by this time the façade of pipes had been installed. So, a few hundred guests were invited to come to the Winspear Centre for a "sneak preview". The night of the unveiling, unfortunately, was September 11, 2001 – that terrible day of so much tragedy and loss of life. I remember everyone present at the unveiling was still in shock, still grieving, still trying to process the horror of that morning. It was, naturally, a muted, difficult evening. But it was also a wonderful reminder of the healing and restorative power of music. Despite the palpable grief we were all feeling, the promise of the music that would be made, the fact that people would come, gather, listen, and be enriched by music – as we were at least in some small measure that night – was a balm, in a way. There were tears, for sure, but it was part of a healing process that, for me, is unique to music.

[MUSIC - 45:34]



The King of Instruments (Transcript)

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ESO Offstage - Episode 5

Max Cardilli (45:56): In this episode you heard Jeremy Spurgeon performing Bach's Toccata and Fugue in D minor, as well excerpts from the Prelude and Fugue in C major performed by Jerrold Eilander.

Thank you to our wonderful guests Jeremy Spurgeon, DT Baker, Jerrold Eilander, and Andrew Forrest who shared their time and voices for this episode.

In the show notes you can find links to many resources including D.T Baker's upcoming course "The Beautiful Machines - A History of the Keyboard", the Orgues Létourneau company website, and many links where you can learn more about the Davis Concert Organ. If you're looking for a fun activity, check out the link to our website where you can even book your very own tour of the Davis Concert Organ!

This episode was produced in amiskwaciy-wâskahikan also known as Edmonton on the traditional lands referred to as Treaty 6 Territory - a place that has been a meeting ground, travelling route and home for many Indigenous Peoples since time immemorial including the Cree, Métis, Dene, Nakota Sioux, Saulteaux, and Blackfoot whose histories, languages, and cultures continue to influence and enrich our vibrant community.

This episode was produced by me, ESO double bassist Max Cardilli. If you want to connect with me about the podcast you can write to eso.offstage@winspearcentre.com.