THE BRAILLISTS FOUNDATION

AN INTRODUCTION TO BRAILLE MUSIC

Matthew Horspool: This episode of BrailleCast Extra is made possible thanks to a grant from the Winston Churchill Memorial Trust. For more information about the Trust, visit its website at wcmt.org.uk.

 Welcome back. Coming up this time, an Introduction to Braille Music, a session recorded on Tuesday, 24th November 2020 and introduced by Holly Scott-Gardner.

Holly Scott-Gardner: We'll just give people a minute or so to join if anyone else wants to come in but thanks to those of you who are already here for our Introduction to Braille Music session.

 Just a quick reminder that we are running this in line with our moderation policy which you can find on our website. We're also recording this event and it will go up on the website along with some notes which I sent out to those of you who were on the forum earlier today. You don't need the notes to be in the session but those of you who maybe already have them, then you might want to take a look at them along with this.

 I will be talking towards the end of the event about future things that we're running, so future sessions, some pre-Christmas sessions and some after Christmas stuff. I'll also be talking about the equipment that the Braillists are giving away. So if you're interested in any of that, definitely stay right to the end.

 So everyone will be muted during this event, though if you do have questions, you can raise your hand and to raise your hand, you hit Alt+Y on Windows, I'm going to need someone to come in and save me and tell what the Mac command is.

Ben Mursill-Rose: Option Y on Mac.

Holly Scott-Gardner: And star-nine on the phone. If you want to ask a question, then raise your hand and Ben, who you just heard speaking then, will call on you and help you get unmuted. It's just so we don't have loads of people's audio bleeding in during the event, so we can hear the main speaker.

 James Bowden is here. James is Braille technical officer at the RNIB but today he is going to be talking us through the basics and a nice introduction to Braille music. So, hello, James, thanks for joining.

James Bowden: Thank you.

Holly Scott-Gardner: So I don't know if we want to give people a couple more minutes but are you happy for us to get started and are you comfortable with people asking questions during the event?

James Bowden: Absolutely, yes, go for it.

Holly Scott-Gardner: Okay, perfect. I'm just going to check the time quickly. We should have everyone in by now so I think we can get started.

James Bowden: Brilliant. Well, thank you very much, Holly.

 So this is a very basic introduction to Braille music and one of the problems of doing a session like this is ideally you need an instrument, ideally you need something to write with and ideally I would know what your individual musical abilities are. Some people are just at the beginning, which is great. Some people have done 17 years and semi-professional or whatever and there's a whole range in between. So we'll see how we go and if anybody does have any questions, please do raise your hand and, moderators, feel free to interrupt me if there's lots of hands coming up.

 So, Braille music was actually invented by Louis Braille, just like the literary code we all use and Louis Braille himself was a musician. He played piano, he played organ and he played the cello. Quite remarkable really, one person, a teenager when he actually invented the Braille system, also invented the Braille music system, again using just the same six dots and effectively you reassign all the Braille cell combinations to have musical meanings instead of textual meanings and we'll see some of that later on.

 Braille music gives opportunities to learn music independently, to study scores and basically to give you all that independence that you don't always have just by listening to somebody else teaching you by ear. Unless you're a vocal musician, i.e. a singer, most music has to be memorised because you can't really use two hands on an instrument and two hands reading a score at the same time. But still Braille music is a very useful tool.

 Braille music can be used for the most simple tunes, we'll be doing some of those later on, you'll be pleased to know, right the way through to piano music through vocal music. You can even do a full orchestral score, should you wish, but it depends how much shelf space you want.

 So, one little word of warning, if you have the handout and you only have a speech synthesizer with the handout, some of the examples will sound incredibly strange because it's very difficult to describe Braille dots when you don't actually have a Braille display to view them. So I will be going through them and if you want to write them down, please feel free.

 Let's get started. The most basic thing you have in music is notes. They can be short ones, long ones, high ones, low ones etc, etc. But basically notes are possibly the most important thing you have in a tune. The basic note that one starts to learn is called a crotchet or in America it's called a quarter note. In Braille music, a crotchet C is represented by what we normally think of as the TH sign. I've got a keyboard here so there's a C just for fun. [MUSIC]

 Then moving up the scale, the note D is the WH sign [MUSIC]. The note E is the ED sign [MUSIC]. The note F is the ER sign [MUSIC]. And G is the OU sign [MUSIC] and the note A is the OW [MUSIC] and the B is the letter W [MUSIC] and then we're back to C [MUSIC ] which is the TH sign again.

 So TH, WH, ED, ER, OU, OW, W and then back to TH [MUSIC].

 I hope I haven't fried anyone's brain quite yet. But they are different, very different from the literary code.

 Also in music as well as notes, you have what we call rests. That's time when you don't play and someone once said about a drummer, it's sometimes the notes you don't play which are the most important ones. So a crotchet or quarter note rest is represented in Braille music by the letter V.

 So we've learned eight signs, the seven notes C to B, TH, WH, ED, ER, OU, OW and W and the rest for a crotchet is the letter V.

 Now, in print music the pitch of the note is shown graphically on what they call the stave. So in print music you have five horizontal lines, one above the other and you put little black blobs on them basically to show how high it is and how low it is. Now, in Braille music, that's obviously not possible so what we have instead of going up and down, is we have a series of what we call octave signs and there are seven octaves on a conventional piano, just over seven octaves in fact and the bottom C [MUSIC] is what we call the first octave C and then the second one [MUSIC] is second octave C, third octave C [MUSIC], fourth octave C [MUSIC] is middle C and so on and so on and so on.

 I'm only going to teach you one of the octave signs, that's all we need for now. It's the middle C, or the fourth octave C, is dot 5. Dot 5 is the fourth octave, the middle octave on the piano, this kind of pitch [MUSIC] and octaves run from C to the B above.

 It's really interesting to me that although Louis Braille lived in the early 19th century, electronic music has adopted exactly the same kind of octave scheme as Louis Braille used but it did it a century and a half later. I find that really, really interesting. It's another instance of where Braille was well ahead of the mainstream, if you like, technological world. So you could say that Braille is a little bit like shorthand in text speak and we know that "v space gd" is "very good" but it took the text world, as in texting on your phone, over 150 years to realise that. So we're ahead which is really good news.

 Music is divided into what they call bars or measures and in print you have a vertical line that goes across the five horizontal ones and in Braille we just have a space. That's quite an easy one to learn, the space as a bar line.

 Often there are four crotchet beats in a bar and we will call that time signature 4/4 and we represent that as the ordinary numeric indicator or number sign followed by an ordinary number four, dots 1 4 5, like the letter D and then a lower 4, like a full stop so dots 2 5 6. So that's just like number four, full stop, if you like. And that means 4/4 time. One, two, three, four. One, two, three, four. And so on.

 That's enough signs for the moment. Let's have an example. So I'm going to dictate this example literally which could sound completely random but I'm doing this for those who are writing things down.

 Start with a number sign, the letter D and the lower D and a space. And then a dot 5. ED, WH, TH, WH and a space. That's four beats, all of which are a crotchet. That makes a whole bar, four crotchet beats in a bar so that's a space there.

 Then ED, ED, ED and then V and a space. WH, WH, WH and then V and a space. ED, OU, OU and a V and that will do us for now.

 And let's see if we can play this. So we have a time signature of 4/4. That's the number sign, D, lower d and then we start with the fourth octave so that's the dot 5. ED sign, now that is the E crotchet so it's that note [MUSIC] and the WH is the D [MUSIC] so we're going down. The TH going down again for C [MUSIC]. WH, back up [MUSIC]. New bar, don't worry. We don't have to play a new bar. Then we've got ED, ED, ED so that's [MUSIC], really exciting music. Then you've got a rest, three WH so that's three Ds [MUSIC]. And then another rest and then ED, OU, OU is E, G, G [MUSIC]. So I'll play the whole thing together and we have this amazing tune [MUSIC].

 And there we go, our first little tune in Braille music.

 Are there any questions so far?

Ben Mursill-Rose: So we have a question from Jess.

Jess: Hello. Hi, James. Sorry, I think I've cleared myself up now because it was when you were saying the notes and I wasn't quick enough to write them all down.

James Bowden: Shall I do them again?

Jess: No, it was the D that I was missing and when you were doing the tune, you said it would be WH so I've filled in the blank now. So I think I'm alright. But did you say something at the beginning about a handout?

Matthew Horspool: If you can get to the chat window, I've just put a link to handout in the chat window, if that's any use to you.

Jess: Wonderful. Thanks, Matthew.

James Bowden: Any further questions or shall I continue?

Ben Mursill-Rose: No other hands for now.

James Bowden: Okay. So, then, not all music has every single note exactly the same length. You would get very interesting tunes if you had to play every note exactly the same length all the time. It would sound a bit like a machine. So, the next note length we're going to learn is what we call the minim or two beat notes or as the Americans call them, half notes, two quarters make a half.

 From C up to B again, a C minim is what we normally consider the letter N for November [MUSIC]. One, two. The D is what we normally consider the letter O [MUSIC]. An E minim is the letter P [MUSIC]. An F minim is the letter Q [MUSIC]. A G minim is the letter R [MUSIC]. An A minim is the letter S for Sierra [MUSIC]. A B minim is the letter T [MUSIC]. And then we're back to C [MUSIC] which is the N again. So you can mix crotchets or one beat notes and minims as needed in your tune and just for completeness, there is a two beat reset or a minim rest or a half note rest and that is represented by the letter U.

 So you have U for a minim rest and we've already seen V as a crotchet rest or a one beat rest.

 That's enough new signs for now. Let's see if we can make another tune. I'm going to dictate it again for those who don't have the handout and it might sound very strange but bear with me. Let's go.

 Start with the number sign or the numeric indicator, the letter D and the lower D. That's our time signature of 4/4. Then a space. Dot 5 as our fourth octave and the first bar reads TH sign, TH sign, OU sign, OU sign. Then a space, we've had four beats there.

 The next bar has only got three notes. OW sign, OW sign and then the letter R, because R is a minim, that makes four beats. So we'll have a space there.

 The third bar reads ER, ER, ED, ED. And a space.

 And the fourth bar has only got three notes again. WH sign, WH sign, and the letter N.

 Okay, let's see if we can play this very well known tune, I hope. So we're in 4/4 time so that's one, two, three, four, one, two, three, four and we're starting on fourth octave, C crotchet, the TH sign, the C crotchet [MUSIC] and we've got two of those [MUSIC]. And then we've got the OU sign which is the G [MUSIC]. Still in the fourth octave so they're going up, C, C, G, G [MUSIC]. Anybody guess the tune yet? OW sign is the A so two of those [MUSIC]. Then we have an R. Now, that was the G minim. So three, four [MUSIC]. So put that together [MUSIC]. And I think you can probably guess the rest. F crotchets, two of those [MUSIC]. E crotchets, two of those [MUSIC]. D crotchets, two of those [MUSIC]. And then a C minim [MUSIC]. Put it together, we have this thrilling little tune [MUSIC].

 Amazing piano playing there.

 The question is, can you complete the tune. I shall leave that as an exercise.

 Now I should say, so far I've only given you the first line of a tune. We haven't actually covered the whole tune. There is a special sign that you get at the end of a piece. In print it's called a double bar so it's two vertical lines instead of just the one between the bars. So two vertical lines at the end. One of them happens to be a thin one and the other one happens to be a thick one but we don't need to worry about that too much. So, the end of the piece, we write the sign for a double bar which sounds completely random. It is GH sign and the letter K. So it does look quite an interesting sign. You read those two together and that means end of piece or double bar.

 So if you're going to try and write the whole of the piece, the last bar which would be two D crotchets and a C minim [MUSIC], translated WH, WH, N, you then immediately write GH sign and K.

 Any questions? Is everyone okay?

Ben Mursill-Rose: No questions at the moment.

James Bowden: Everyone's baffled and silent. This is amazing.

 So let's take it a little stage further. We don't just have to have notes which are one beat long or two beats long. We can have a note which is four beats long. Now they're called semibreves or in American terminology, they're called whole notes, two halves make a whole. Again running from note C to note B, these look like this. The C semibreve [MUSIC] is the letter Y. The D semibreve, that's D for four beats [MUSIC], is the letter Z. The E semibreve [MUSIC] is the AND sign. The F semibreve [MUSIC] is all six dots, the FOR sign. The G [MUSIC] semibreve is the OF sign. The A semibreve [MUSIC] is the THE sign and see if you can guess, [MUSIC] the B semibreve is the WITH sign. [MUSIC] Back up to C which is the letter Y again. So they last four beats.

 Sometimes you might need a note which is three beats long. Let's do those. What you have is a two beat note, a minim, so N, O, P, Q, R, S, T and you put a dot 3 after it and that's called a dotted minim. It's the same in print music. They write a minim and then they put little dots after it. So a three beat C [MUSIC] would be N immediately followed by a dot 3.

 Enough new signs, time for another tune.

 Again I'm going to dictate this, apologies if this is rather slow. I'm doing it for the benefit of those who don't yet have the handout. So we start with the number sign, or numeric indicator, whichever you want to call it. The letter D, the lower D, our 4/4 time signature, four beats in a bar and then a space.

 Now this tune is interesting because I'm starting it with a rest, a crotchet rest, which if you remember is the letter V. So I haven't yet put an octave sign because you can't really say a fourth octave rest, because, well, it could be any note, rest are silent. After your V, then I have my dot 5 for fourth octave and now we've got some notes. TH sign, ED sign, ER sign. So that's now four beats, the V, the TH, the ED and the ER, so that's a whole bar. Let's do a space. And now I've only got one note in this next bar. It's the OF sign. So that's a G semibreve four beats. A space. And we're going to repeat those two bars. So write them out again. V, TH, ED, ER, don't need to put the octave sign the second time, then a space, and OF and another space. How do we play that? It goes like this.

 So 4/4 time, so one, two, three, four, rest. Fourth octave. [MUSIC] Two, three, four, off [MUSIC]. Anybody guess the rest of the tune yet? So the next bit, we've got a V, for another crotchet rest, TH, ED, ER, space and then two minims, R, so that's a G minim, P and that's an E minim, a space. Next bar is two more minims, N for November, P and then another space and the final note is the letter Z.

 So that goes, rest [MUSIC]. So I could play the whole thing a little bit faster now [MUSIC].

 And again for those who are very, very interested, you can have, "Can you complete the tune?" as your homework. Ooh, I've actually written another line. I've written another line out here because it's got a dotted minim, that's why I wrote the third line. So we've got V, ED sign, ED sign, WH [MUSIC]. And then we've got a C semibreve, the letter Y [MUSIC]. Two minims, an E minim and a G minim [MUSIC], which is P, R. And then this bit, [MUSIC] one, two, three, four. So that's [MUSIC] a G crotchet, followed by an F dotted minim [MUSIC]. There it is. Q and a dot 3 immediately afterwards.

 So there we go. That, I think, is probably enough signs to be getting on with. I don't want to completely frazzle people's minds but if you have any further questions, I'm sure we can tell you the signs. We can do sharps and flats and staccatos and pianos and fortes and crescendos and everything else you get in music but we don't need to go into all those details right now.

 Are there any questions?

Ben Mursill-Rose: Yes, so we have a question from Rita.

Rita: Hello there.

James Bowden: Hello. How are you?

Rita: I'm fine, thank you. This is all very interesting, quite new to me. When you're writing a piece of music and your line is longer than the line of your paper, do you make a continuation sign?

James Bowden: You absolutely do and you've even got the right words for it, I'm very impressed. So this is just a bit like mathematics so you use a dot 5 at the end of the line and of course the dot 5 is the octave sign, fourth octave but you can't have fourth octave nothing, so it means something else when it's just right at the end of the line and that's the continuation sign, just like you can do in very, very long numbers if you wanted to. It's like a hyphen, if you like, yes.

Rita: Yes, great, thanks.

james Bowden: The other thing you do with this is you generally split at what they call a logical point. So just like in ordinary text, you hyphenate it at appropriate places. You wouldn't write, for example, "A hyphen, new line, P-P-R-O-P-R-I-A-T-E" for appropriate. You can't hyphenate there. You'd have to write "A-P hyphen P-R-O-P-R-I-A-T-E." It's the same in music. You would normally hyphenate between the beats. So let's assume I had lots and lots of notes in a bar, let's assume they were grouped into fours so you would break after a pattern of four.

Rita: Yes, that makes sense.

James Bowden: Cool.

Rita: Great, thanks for that.

James Bowden: You're very welcome.

 Anybody else?

Ben Mursill-Rose: Yes, so we have another question from Jess.

Jess: Hello again.

James Bowden: Hi, Jess. How are you going?

Jess: Hi. Yeah, I'm really good. I'm loving this, James, thank you so much. But just looking back over my notes and you know the first ones where you went through and you started on the C which is TH sign and then the C at the other end, is that also TH?

James Bowden: The same. Exactly right. Yes, because all Cs are called Cs [MUSIC]. They're all called C and we all use the same sign but they're in different octaves. So I've only actually told you the fourth octave sign which is dot 5 but I will actually teach you another now. So the third octave sign which is that one down there [MUSIC].

Jess: Hold on. I need to get so I can write it.

James Bowden: Do you want the whole set?

Jess: Oh, yes, if you don't mind, that would be lovely.

James Bowden: Okay, here we go then. That one [MUSIC], first octave.

Jess: What are they called though? They're just called octave-

James Bowden: They're called octave signs, yes. So this is the first octave or octave one [MUSIC]. It's the first C that you have on a full sized conventional piano, right at the bottom. There's a couple of notes before that but don't worry about them. That's represented by a dot 4 [MUSIC]. First octave.

 The second octave, which is that one [MUSIC], still in the bass, that is the second octave and that's dots 4 5.

 You can probably guess what the third octave is, [MUSIC] dot 4 5 6.

 We already know the fourth octave is dot 5 [MUSIC]. That's the easy one. It's the middle C, it's the middle dot, that's the easy one.

 Now we're going up into hyperspace a bit. [MUSIC] Fifth octave, the higher notes for the sopranos, is dots 4 and 6.

 And then the sixth octave [MUSIC], which is getting into quite high territory, is dots 5 and 6.

 There's only one left which you can probably guess [MUSIC], seventh octave is right up here [MUSIC], and it is dot 6.

 There is a very interesting thing about all those octave signs which is they are all the right-hand dot combinations. If you look at them, dot 4, dot 4 5, dot 4 5 6, dot 5, dot 4 6, dot 5 6 and dot 6, they are all only using right-hand dots, which is very interesting because they're like prefixes and isn't it interesting how even our contractions, those signs, don't actually mean anything on their own? They are prefixes in the literary code as well. Really interesting how there's all these connections.

Jess: So clever. That's just incredible.

James Bowden: Absolutely great respect for Mr. Braille.

Jess: Wow. I'm just completely mind-blown by the whole thing and how you remember it all.

James Bowden: That comes with practice. Sometimes as a blind musician you get a bit jealous of a sighted person who can pick up a piece of sheet music and have a bash through it. As a blind musician you actually have to put in a lot more effort to do that.

Jess: You must get so much more out of it though.

James Bowden: Hopefully, if you put the effort in.

Jess: Do you learn by ear as well?

James Bowden: Yes. This is a very, very good question. It's a bit like the argument about audio or Braille for reading. You could say the same about music. Do you learn by ear or do you learn from Braille music? The answer of course is both, depending on what kind of stuff you're learning. So I'm going to play a bit at the end which I could have learned by ear but I learned from Braille. The piece I'm currently learning would be difficult to learn by ear. I'm going to try to play a couple of bars of this. This might go horribly wrong [MUSIC].

 That's enough. If you're trying to learn that by ear, that would be hard work.

Jess: I think it's all hard work.

James Bowden: It comes with practice.

Jess: Wow. So you're a pianist? Do you play any other instruments?

James Bowden: I used to play a trombone, believe it or not and I sometimes play pipe organs as well. The pipe organs are interesting because you have to have your right hand, your left hand and your feet as well. Organists like drummers know that you've got four limbs.

Jess: Yes, that's definitely out of my league. Do you give lessons?

James Bowden: Not music lessons, as such but I can teach Braille music.

Jess: Where do you go to learn Braille music, apart from here?

James Bowden: I was going to cover some of the resources at the end of the session.

Jess: Oh, sorry, I jumped ahead.

James Bowden: I can skip ahead. So there are tutor books for Braille music. One is called Braille Music For Beginners For The Piano. It's written by a lady called Joan Partridge and that's available from the RNIB. Another book is Focus On Braille Music by Lisette Wesseling. Lisette was a singer, she sadly passed away, very well respected. I believe that book is available from the RNIB library and it's also available from the New Zealand Foundation. I think they've recently changed their name so I'd better get that right before I go too much further with that one.

 Then of course there's all sorts of piano tutor books and all that sort of thing and if you are studying, for example, grade pieces, all the ABRSM, or the Associated Board of the Royal Schools of Music, piano and flute pieces are available to download from their website.

Ben Mursill-Rose: Great, thanks for that, Jess. We did have a question from Michelle but, Michelle, I notice that you've lowered your hand but do feel free to come back in if you have another question. But for now we're going to go to Tina.

Tina: Hi. The Focus book you just mentioned, I actually bought that because when I was at school, I did start to learn Braille music because I was really interested in piano but the Focus book, you couldn't get that from the RNIB, when I ordered mine. I had to order it from the company themselves.

James Bowden: That is correct.

Tina: Just so that people know. My question is, because it's my first time joining in, and I'm going to get the newsletters tomorrow or whenever they come out, and I'd like to have the notes, please, that go with this. I've worked out the second and third tune but I'm not going to say.

James Bowden: So I think the handout will be available on the Braillists media page. Someone correct me if I'm wrong but that's braillists.org/media.

Holly Scott-Gardner: Correct.

Tina: Got that.

James Bowden: Okay, so let us briefly look at a couple of ways of laying out Braille music. We so far just look at single line tunes, played with one hand on a piano and it sounded a bit basic really, didn't it? But never mind, we've got to start somewhere.

 A lot of people like to sing in choirs. Well, they did when we were allowed to do so. So how does Braille music deal with vocal music? So what you have, is you have a line of the words and then underneath, indented by two, you have a line of Braille music, just like we showed earlier. Then you have another line of words, another line of Braille music indented two, all the way down the page. So one of the examples we had was [MUSIC] that tune. You would have the lyrics which I have written here, "Oh, when the saints go marching in comma," ordinary Braille and underneath we have two spaces, V, dot 5, TH, ED, ER, space, OF sign, space etc, etc, the Braille music. Then you have another line of words, "Oh, when the saints go marching in," and another line of Braille music, etc, etc.

 So that's how choral music is often written out. Now, it's interesting to note that in print music, you would have two staves, one above the other and typically four notes on those staves for soprano, alto, tenor and bass. In Braille music you tend to get just your part. Otherwise you'd be skipping down so many lines and only having to read one out of every five lines, as it were, one for the words and then four for the music, you're gonna waste an awful lot of paper, skipping over pages all the time very, very quickly. So it doesn't normally have the whole score, unless, of course, you actually are the accompanist or something like that.

 So that's vocal music. What about piano music? We've already talked about pianos and organs and things like that. This is a little bit different because we've got two hands. So we need actually to show both hands and in the modern layout, you have two lines, the first line is your right hand and then the second line is your left hand. Very similar to the way print music is laid out in that respect. On the left, down the left-hand margin, if you like, we put what we call the bar numbers. So the first bar is number one and then you go one, two, three, four and then you've got bar two, two, three, four, and then bar three, and so on, as many bars as needed. And they're written typically without the number sign or numeric indicator.

 Now the only other signs needed for piano music which I'm going to introduce at the moment is the left hand and the right hand sign. The right hand sign is dot 4 5 and an AR sign. Now Jess will think, oh, that looks a bit like an octave sign but you can't have an AR sign. It's not a note so you can't have a fifth octave not a note, so they reassign dot 4 6 AR to mean the right hand sign. The left hand sign is dots 4 5 6 AR.

 So again for the benefit of those who don't have the handout, here is the beginning of [MUSIC], but now as piano music. So line one, I have the letter A and a space so that's bar one. I've skipped over the time signature on this example, by the way. Then we have dot 4 6 AR for the right-hand sign and then we start off dot 5, TH, TH, OU, OU, just like it was before. A space, OW, OW, R. So that's [MUSIC], just like it was before. And I could fit more bars along the Braille line but I'm going to go down and do the left hand. So I've only got two bars on this line. Now my left hand, I'm going to indent two so that the 4 5 6 AR, the left-hand sign, 4 5 6 AR, so that lines up with the right hand sign so they're one above the other.

 Now, we need the third octave sign which is dots 4 5 6, because my left hand plays a little bit lower than my right hand, generally. I'm going to have a C minim which is the letter N [MUSIC], and an E minim which is the letter P [MUSIC].

 Then I need to line up for bar two, so I think it's three spaces and then we've got four notes in the second bar in the left hand, which is the ER sign, the TH sign, the ED sign and another TH sign. And that sounds like this [MUSIC].

 Thrilling stuff. So now the challenge, having learned [MUSIC] and then separately learned [MUSIC], the real challenge is putting them together and it's not just a challenge when you're starting off. It can be a challenge when you've got quite a lot of the way through as well. So here goes [MUSIC]. Hey, it worked, brilliant.

 So line three, we're on bar three now, so I'm starting in the left-hand margin with the letter C for number three, a space, the right-hand sign which is dot 4 6 AR, fourth octave, dot 5, you always put that at the beginning of each line in piano music and vocal music as well. It is so easy to miss an octave sign and then whizz off into hyperspace when you didn't really mean to. Always worth checking those octave signs. And we've got ER, ER, ED, ED [MUSIC[, a space, WH, WH [MUSIC] and N [MUSIC]. That's F crotchet, F crotchet, E crotchet, E crotchet, space or bar line, E crotchet, D crotchet, C minim.

 The fourth line, so line up the left hand sign, 4 5 6 AR, underneath the right hand sign so a couple of spaces and then 4 5 6 AR. Third octave sign for the left hand, dots 4 5 6 and it's all crotchets until the end so we've got D crotchet, G crotchet, C crotchet, D crotchet which is [MUSIC], WH, OU, TH, OU and a space. F crotchet, G crotchet, E minim which is ER sign, OU, sign and the letter P for the E minim.

 Now the challenge is to try and play that, learn it together so right hand was [MUSIC] and the left hand was [MUSIC]. And putting them together [MUSIC].

 And that's almost how you kind of learn piano music. You learn the right hand, you learn the left hand, you then attempt to put it together and then you practice. So let's see if I can play all those four glorious bars of right hand and left hands together, as if I'm starting out on a new piano [MUSIC].

 Just about successful. So we have only just scratched the surface of Braille music but there's so much more you can do, as I said at the beginning, everything from simple one-line melodies like that, right the way through to complex piano pieces, orchestral works, vocal music, it's all possible in Braille music.

 We've mentioned a couple of the resources, Braille Music For Beginners for the Piano by Joan Partridge, that starts at the beginning and takes you up to about Grade 2 standard, most of the pieces there, so it is really for the beginners but the concentration is on the actual Braille music notation. Then we mentioned the Lisette Wesseling book, Focus On Braille Music, which I understand is available from the RNIB library. It is not available to buy from the RNIB. I think we go to New Zealand for that. I'm investigating at the moment.

 If you really want, the New International Manual Of Braille Music, otherwise known as NIM, is your definitive reference book for all things Braille music and that is not a tutor book and it is not for the faint-hearted but I should mention it just for completeness.

 We've mentioned the pieces for piano and flute available from the Associated Board of the Royal Schools of Music, so that's at www.abrsm.org.

 The RNIB has a library of Braille music, so if you want to find a Mozart piano sonata or a piece of Beethoven, go have a look in the library. It may well be there. Of course that's the rniblibrary.com site.

 Of course you can also create your own Braille music. Just like we have programs like Duxbury and Centre Braille for making literary Braille files from print, you can make Braille music from a format called Music XML. One commercial program is called **GOODFEEL**® by Dancing Dots, that's dancingdots.com. There's even a web server which I'll mention called Braille Muse, that's braillemuse.net and you just feed it your XML file and out comes Braille music.

 Now, of course, as with all translation programs, it doesn't mean to say it's going to be perfect but it's a great start.

 More information about Braille music is available on the RNIB website, rnib.org.uk/braillemusic.

Holly Scott-Gardner: Thank you so much. That was really, really helpful information. I was actually surprised that I remembered a lot of the notation because I am not a musician by any stretch of the imagination so I was quite excited that I even remembered any of it. So I did learn something when I was at school, which was a relief.

 I don't know if there's anyone who has burning questions before we wrap up.

Ben Mursill-Rose: We've got one extra question from Jess that we can come to quickly.

Jess: Hello. With the octave signs, if you're in a piece of music and it goes up higher to the next octave, do you put that next octave sign in before the notes each time?

James Bowden: So, it really does depend on how the music goes. I didn't want to get into the octave signs quite today, or the octave sign rules today. Basically I'm going to say it very quickly. If it makes sense, all well and good. If it doesn't make sense, come and talk to me afterwards and I'm very happy to explain.

 Do you know what an interval is? It's the distance between two notes. So if you've got, for example, a C to a D [MUSIC], that's called a second and a C to an E [MUSIC], is called a third. A C to an F is called a fourth and so on. If you have a second or a third interval, you don't need an octave sign. So I could play [MUSIC], no octave signs needed. It's just C D E F G A V C D E F G A V C. No octave signs needed.

 And this is why I said you've got to be very careful because you can easily jump into the wrong octave when you don't mean to.

 If you have an interval that's a sixth, so that's from C to A, if you like [MUSIC], quite a big interval, anything a sixth or above, you always have to put the octave sign, even if it's the same one.

Jess: How could it be the same?

James Bowden: So there's a fourth octave C and there's a fourth octave A [MUSIC]. That's a sixth. So if I didn't put the octave sign, you would actually read it as the closer note [MUSIC] which is only a third, you see. C down to A.

 Then if it's a fourth or a fifth, that's where it gets really complicated.

Jess: I think I've got out of my strengths.

James Bowden: I didn't want to go into the octave sign rules today.

Jess: Thank you.

James Bowden: I'm more than happy to explain to anybody who needs them.

Jess: That's lovely, thanks.

James Bowden: Alright, shall we play out with some Mozart?

Lady from Oban: Hi, may I ask a question? Hi, I live in Oban in the west of Scotland. Just a little bit more about Braille translation, translating music into Braille. So did you say it was XML? And so where do you access XML?

James Bowden: You can either create it yourself with a score writing program such Sibelius, Finale or MuseScore, or something like that. Or you can find sites on the Internet which actually have libraries of pieces in music XML. So musescore.org has a selection. OpenScore is another one and I'm sure there are many others.

Lady from Oban: So if you create XML and then you use-

James Bowden: And then you use a translation program and do not try and read music XML as it is. It's like reading HTML coding. It's not ideal. So you need a program to actually interpret it as actual music and so on.

Lady from Oban: So that's where the BrailleMUSE comes in.

James Bowden: That's right and then you can push that file into BrailleMUSE and it'll come back as Braille music.

Lady from Oban: That's absolutely brilliant. I'm a member of a choir, not that we're singing at the moment, but that's really, really fantastic information. Thank you very much.

James Bowden: As I say, it's not going to be absolutely perfect when you have automated translation, just like translated literary text is not perfect. It's going to be pretty good.

Lady from Oban: May I just ask one other very quick question? UEB Braille, has that altered Braille music?

James Bowden: Very little, very little.

Lady from Oban: Good.

James Bowden: Obviously it affects things in lyrics and so on but for the actual music part, it's very little.

Holly Scott-Gardner: Before you start playing, I'm just going to talk quickly about the equipment that we're giving away, just so we can cover that and then you can play some Mozart.

 So the Braillists are giving away low tech equipment to anyone who subscribes to our newsletter. It would be amazing if those of you who aren't subscribed to our newsletter can go to the Braillists website which is braillists.org and you'll find our newsletter there and you can get through our equipment and we have various different things. We have some slates and styluses which are Braille writing frames, some examples of Braille paper, abacus which is for calculating mathematical equations, and a Braille learning block. So we are giving away all of these things if you're interested in getting any of those.

 If you want to find out what event we'll be running in the future, we are running a labelling event and an event on using the abacus and you can go to braillists.org/events to find out all the information about those.

 I think we're about ready for some Mozart so thank you so much.

James Bowden: Thank you, Holly. So I'm going to only play a little extract from the middle movement of Mozart's sonata number 17 in B flat major. So the beginning of the sonata is in B flat [MUSIC], but I'm not going to play that movement because that gets very scary. I'm going to play an extract from the second movement which is in E flat [MUSIC] and at this stage we've modulated to A flat. So even though the original sonata is in B flat, I'm going to play in A flat so apologies to anybody's sensibilities for saying B flat and playing in a different key. [MUSIC]