THE BRAILLISTS FOUNDATION

AN INTRODUCTION TO GRADE 3

Matthew Horspool: Welcome back to Braillecast Extra. Coming up this time, An Introduction to Grade 3 Braille, a session recorded on Tuesday, 20th of July 2021 and introduced by Ben Mustill-Rose.

Ben Mustill-Rose: Good evening, everybody, and a very warm welcome to this evening's event, brought to you by the Braillists. This evening's Master Class is all about Grade 3 braille. Now, I don't know about you but I reckon a lot of people will have heard of Grade 1, quite a few people will have heard of Grade 2 but not that many will have heard of Grade 3. I was aware of Grade 3 anyway due to my readings and also some of the conversations that we've been having in our Braille Bar event but I'm by no means an expert on it. Luckily for us though, we do have an expert here, ready to give us a bit of an introduction. A name that will be familiar to many throughout the blindness community and many people who have attended our previous events, it gives me great pleasure to introduce the man, the myth, the legend that is Mr. James Bowden. James, over to you.

James Bowden: Thank you very much. Good evening, good morning, good afternoon, everyone, and this session is about Grade 3 braille.

 I guess the first question is, what is Grade 3? It is basically an extension to Grade 2, in other words, lots more contractions and by lots, I mean hundreds more contractions and other space-saving devices such as missing out spaces and missing out vowels.

 We'll come onto some detail in a while.

 The idea is that it makes braille smaller in terms of how much space it takes and therefore you can read it quicker and you can write it quicker.

 Now, I should say right up front that I will assume that everyone has a thorough knowledge of existing contractions of Grade 2, whether that be Standard English Braille, English Braille American Edition, or indeed Unified English Braille. Grade 3 is a huge add-on, so if you don't know Grade 2, now is a good time to take this big disclaimer. I do hope I won't fry people's minds too much with some of the stuff we're going to talk about. Some of it will look quite interesting.

 I should also say that Grade 3 was possibly conceived in the early 20th century. Much of the information that I have on Grade 3 dates from 1919, so that's over 100 years ago and so, language has actually changed quite a lot since then and also the way we use print or text has changed quite a lot since then. So, some of the things in the contraction lists might seem a bit strange. Some of them might seem a bit outdated, but nevertheless it is quite interesting, to me at least.

 I first got interested in Grade 3 towards the end of my school days and I could find very little or in fact no information about it until some very kind gentleman from the RNIB read a list of all the signs onto a cassette tape. Now, that kind of dates it, doesn’t it? Some of you younger folks don't even know what a cassette tape is, perhaps, but it was effectively a precursor to an MP3.

 I didn't have the rules, just the signs. I have continued to endeavour to find more information about Grade 3 and I'm glad to say I found some. I first used Grade 3 in earnest when I had a wonderful holiday on the other side of the globe, when I went to visit my relatives in Australia. Now, at that time, I certainly didn't have a very fancy electronic braille note taking device, certainly couldn't afford one of those, I didn't have a nice audio recorder or anything like that. So, I just took a slate and stylus, or a hand frame, and some bits of paper. It was a pocket-sized frame so it was eight lines and 18 cells and a little stylus and I decided to keep a diary of such a special holiday. I wrote one little page per day and came home and tried to decode it, but that's another story.

 So, that's enough of the background, perhaps, except to say Grade 3 is not an official code any longer. You will not find it in technology products like screen readers or phones. You can use Grade 3 for your own personal note taking. Do not expect a screen reader or a braille translation program to do the translation, at present. You also won't really find Grade 3 books in a braille library.

 So, now let's look at some of the additional contractions in Grade 3. We'll start by looking at one cell signs and specifically those which can only be used at the beginning of a word. So, if you want an example from Grade 2, it's something like the lower d for the letters D-I-S, dis, and in Grade 3, we have seven additional one cell signs which can only be used at the beginning of a word. If you're taking notes, now is a good time to start.

 The first contraction is the letter J which represents the letters DE. So, a word such as "define" is written in Grade 3: J, F, IN sign - lower i, then the letter E. J, F, IN sign, E. Or the word "depend" would be written: J, P, EN sign, D.

 The second one of these is the letter Q. Now, it was certainly true in the early 20th century that almost all letter Qs in the English language were followed by the letter U, so it's an obvious choice to remove the letter U to save some space. So, Q in Grade 3, at the beginning of a word and in fact in the middle of a word, represents the letters QU. So the word "queen" is Q, E, EN sign.

 The next one is the letter X, which represents the letters EX at the beginning of a word. So, "expand" would be: X, P, then the AND sign. And "explain" would be: X, P, L, A and then the IN sign.

 And then we have some contractions which have been given additional meanings. So, the OU contraction, dots 1 2 5 6, as we know in Grade 2, on its own, stands for the word "out". Also at the beginning of a word in Grade 3 ,is "out". So, "outline" is O, U, L, IN, E.

 OW, dots 2 4 6, at the beginning of a word is the letters RE. "Remain" is OW sign, M, A, IN sign. "Repeat", OW sign, P, EA sign, T.

 GH sign represents the letters SP, and again that one applies at the beginning or the middle of a word. SP is the GH sign, so "spin" is GH sign, IN sign and "spent" is GH sign, EN sign, T.

 And the final one in this group is the ING sign, dots 3 4 6. This represents UN, as in "unable", ING sign, A and then dots 3 4 5 6, BLE sign. Or "unreal", ING sign, R, EA sign, L.

 Now, apart from the QU and the SP, so that's the Q and the GH sign, all of these signs must represent a syllable. So, you can use, for example, J for DE in a word like "defend" but you can't use it in a word like "deep".

 So, there we have the first seven signs of Grade 3, which are those which can be used at the beginning of words.

 So, there you have it, seven extra signs for the beginning of words. I should have said, now's a good time to start taking notes. Those who are taking notes, J is DE, Q is QU, X is EX, OU sign is OUT, OW sign is RE, GH sign is SP, and the ING sign is UN.

 So, let's take two minutes for anyone with an immediate question. Ben, would you do the honours?

Ben Mustill-Rose: I would be glad to. Thank you, James. So far, great content. So, we're going to take time for some brief questions and there will be a longer period towards the end of the session for any more in-depth questions. If anyone has any questions on what we've heard so far, there are a couple of ways that you can raise your hands to ask your questions. If you're on Windows, you can press Alt+Y. If you're on Mac OS, you can press Option +Y. If you're dialling in on a telephone, you can press star+nine. If you're on a device like an iPhone or an iPad or a device running Android using the Zoom app, you can press the More button which is visually represented by three small dots in the bottom right of your screen and then press the Raise Hand button.

 To give people an idea of how we do this, we try to give people a little bit of warning before we go to them, just in case they're washing up or making a cup of tea.

 So, we're going to Sheila first.

Sheila: What I noticed was, correct me if I'm wrong, but when you were spelling out the word like "unreal", you said "U, N, R, EA sign," I think, so that's confusing me now because is the Grade 3 a combination of the Grade 3 and SEB or UEB?

James Bowden: Neither, because it predates both. It is an extension to what we used to call Grade 2 and in fact, "unreal" is exactly the same in SEB and UEB so the EA sign is still the same.

Sheila: Oh, I'd forgotten that.

James Bowden: EA sign is still the same in all the braille codes, SEB, EBA and UEB.

Ben Mustill-Rose: Thanks for that, Sheila. That's all we have for now.

James Bowden: So, let us move on to one cell signs with additional meanings in the middle of words. Again, if you're taking notes, now is a good time to get ready.

 Now, I should say, we are not going to cover all of them. There's a couple which I'm missing out, but basically most of them are covered here.

 We've met a couple of these already. Q, QU, and GH representing SP. The next one of these is WH, not many words with WH in the middle, so that doubles now as the letters SE. An example word here is "consequence". Dots 2 5 for CON, WH sign for SE, Q for QU, and then 5 6 E, for ENCE. I'll run that again: dots 2 5, middle C, WH,Q, dot 5 6, E.

 We also have some additional double letter signs, so in Grade 2, we have double C, double F, double G, etc. In Grade 3, we also have lower H in the middle of a word is double R and my example word here is "borrow": B, O, lower H, OW.

 Lower J is double T. For example, kitten is K, I, lower J, lower E for EN.

 Double L is 4 5 6. So, "dollar": D, O, dots 4 5 6, AR sign.

 Double S is dots 4 6. "Tissue": T, I, 4 6, U, E. Now double L and double S also work at the end of a word.

 There are couple of others.

 There's a second class of contractions which only apply in the middle and these represent two vowels. So, when you have two vowels together, like double O, or IE, or double E, etc., you can use one of these signs:

 Dot 4 represents two vowels beginning with A, so it's like A blank but the blank has got to be a vowel. So, the word "fault" is: F, dot 4, L, T.

 Dot 5 is E blank. Dot 6 is I blank, two vowels beginning with I. Dot 4 5 is two vowels beginning with O or O blank. F, 4 5, T, would be "foot". F, L, 4 5, T would be "float".

 Finally, dots 5 6 is two vowels beginning with U. So, the word "guide": G, 5 6, and J, the DE sign, also applies at the end as well as the beginning.

 So, you must use these signs where it is obvious what it means, so you can't use, for example: C, 4 5, L, because it could be "coal", "coil", or "cool" and you've really got to still be mindful of keeping the meaning clear.

 Those are signs for the middle of a word.

 Very interesting, isn't it, how we have some additional double letters and then we have these really intriguing two vowel signs, a bit like playing crosswords where you have blank letters which you've got to work out and you really do have to be careful with those.

 Any questions, Ben?

Ben Mustill-Rose: Just give people a moment of two to raise their hands. We have a question from Jeff Bashton.

Jeff: Just a quick observation. Those of us who are ancient will recall that the braille shorthand system was in the 1959 revision and shares some characteristics with this. Dare I say, whilst you said this was quicker to read and write, I think I'd like to take issue. Quicker to write, yes. Quicker to read, I suspect not, because of the decoding. And just a cautionary tale, as an early university student who took notes in braille shorthand and they had great problems in transcribing them back, I would urge a note of caution.

James Bowden: Yes, that's a very interesting point there. I should have mentioned the shorthand code. It is different from the Grade 3 code. Grade 3, I think, predates the shorthand code and as I understand it, the shorthand code was mainly aimed at business whereas the Grade 3 was mainly aimed at general text. I guess, if you got proficient at Grade 3, you could read it as quickly as any other braille code. But it is a learning curve.

Ben Mustill-Rose: Thanks for that, Jeff. No more hands right now, so I think we're good to move on.

James Bowden: The final group of one cell signs is those which you can use at the end of words, and again we're only going to cover some of these.

 We've met some of these already, like J for DE and 4 5 6 for double L and 4 6 for double S.

 Here are a few others.

 Q does not occur at the end of a word so that's been reassigned LE. So the word "circle" is: C, I, R, C, Q.

 V at the end of a word represents VE. So "move" is just M, O, V.

 W at the end of a word is WARD. So, a lovely example, is "forward": FOR sign, W.

 Z at the end of a word is the letters ES. So, "edges" is: ED sign, G, Z.

 OU sign represents the ending OUS. So "obvious" is: O, B, V, I, OU sign.

 Lower J is not double T like it is in the middle. Lower J at the end is TE. So, a "flute" is F, L, U, lower J.

 Dots 4 5 at the end of a word is LY. So, "fairly simple": F, dot 4 (remember the two vowels beginning with A), R, dots 4 5, and then "simple" would be S, I, M, P, Q.

 A couple of interesting ones here, dots 3 6, bottom C, represents the letters CE or CY. Watch that one, it represents two different things. So, the word "rice" would be R, I, bottom C.

 The final one I've got in this section is that dot 6 at the end of a word represents the letters IAN or ION. So, the example we have is "region": OW sign, G, and then dot 6.

 Now, there are some others but we can't cover everything.

 So there we have it, a summary of the extra one-cell signs in Grade 3. Some of them really do look quite interesting when you start reading them, particularly the right-hand dot signs at the ends of words. You've got to have some pretty good tracking for a word such as "daily", because it looks a little bit like the word "dab". It's actually D, dot 4, and then dot 4 5. It's a very interesting code.

 Let's move on to double cell signs.

Ben Mustill-Rose: We can move on or we can take a question.

James Bowden: We can take some questions.

Ben Mustill-Rose: We're going to come to Kerryann first.

Kerryann: My question is with the dot 6 symbol. Now that you can use that in UEB where you use the capital letter thing, would you still recommend using that one?

James Bowden: As I said, this predates a lot of braille codes, so back in 1919, for Grade 3, one did not normally show capitals and also this dot 6 is right at the end of a word, so another example is "musician", so at the end you'd write C and then a dot 6 at the end, so it doesn't even look like a capital because a capital sign would normally be at the beginning of a word.

Kerryann: Well, no, I'm talking more about the new code of braille. If you're writing a whole line of braille and you need to capitalise the entire line, you put double dot 6 at the beginning and then you put dot 6, dot 3, at the end.

James Bowden: At the end. Okay. So, those signs didn't exist.

Kerryann: But it is an issue.

James Bowden: You cannot mix this with UEB, especially when you get into the symbols section, which I'm not really going to cover. Some of the symbols clash with contractions. Capitals were not shown in Grade 3.

 So, we've covered one cell signs. The next batch of signs is two cell signs. We're already familiar with two-cell contractions, things like dot 5 D, for "day" and dot 5 E for "ever", dot 4 5 6 M for "many" or dot 4 5 W for "word".

 Now, Grade 3 takes this to a new level and there are literally hundreds of these signs. Nearly every braille character has a dot 4 contraction, a dot 4 5 contraction, a dot 5 contraction and a dot 4 5 6 contraction as well as standing alone.

 So, let's look at the beginning of this table. I'm not going to read all of it, else we'll be here for a very long time. So, let's start with the letter A. Again, if you're taking notes, feel free.

 A, dot 4 A, is "act". Dot 4 5 A is "appear". Dot 5 A is "among" and dot 4 5 6 A is "all".

 B is "but". Dot 4 B is "better". Dot 4 5 B is "bear". Dot 5 B is "bring". Dot 4 5 6 B is "brought".

 C, "can". Dot 4 C is "course". Dot 4 5 C is "clear". Dot 5 C is "Christ". Dot 4 5 6 C is "cannot".

 Finally D is "do". Dot 4 D is "doing". Dot 4 5 D is "does". Dot 5 D is "day". And watch this last one, dot 4 5 6 D is either "did" or "done". So, it depends on the context which is meant. If I wrote: I and then 4 5 6 D, and then X, it would be "I did it." But if I wrote: I, H, 4 5 6 D, X, that would be "I have done it."

 Let's have a look at some of the additional signs standing alone, in particular those for the lower letters. So, we already have lower B for BE and lower G for "were" and lower H for "his". How about, in Grade 3, dot 2 or the EA sign standing on its own is either the word "an" or "am"? And it depends on the context again. So, "an experiment" would be dot 2, then remember X for EX and so on, experiment. Dot 2 5 or middle C is the word "is". And dot 2 5 6 or lower D on its own is "are".

 Finally dots 2 3 5 or lower F is "to" and it's also on its own "been".

 So it's interesting to note that now all the lower signs cover the whole of the verb in English, "to be". You've got "am", "is", "are", you've got "be", "been" and "was" and "were". They're all covered.

 Some of the words already occupy only two cells. Some examples: dot 4 S H, is the word "she". Dot 4 lower H is the word "he". Dot 4 I is "if". And dot 4 U is "up."

 Now, a very good question: Why are they here if they only occupy two cells to start with? The reason is because you can omit the following space. In fact we'll come onto space saving in a moment. But, "she went up the road," you don't need any spaces and we can write dot 4, SH sign, "went" is dot 5 ER sign, "up" is dot 4 U, "the" and then "road", R, remember the two vowels beginning with O is dot 4 5 and then D. Now, as I've spelled out the word "road" or sort of spelled it out, I then do need a space or the punctuation mark after it and a space.

 Another example: "he had the time of his life." No spaces required again. Dot 4, lower H, for "he", "had" is dot 4 5 6 H, "the", "time" is dot 5 T, "of", "his", no space required yet, "life" is dot 4 L and then a full stop and a space.

 So, that's a flavour of the two-cell signs in Grade 3.

 That's the meat of the code. You have this huge table of extra signs and some of them, like dot 5 ER, do look quite strange. I'll give you another one. Dot 5 and then the GH sign is "special". Remember the GH doubles as SP in Grade 3, so dot 5 GH is actually dot 5 SP, if you like, which is "special".

 Do we have any questions?

Ben Mustill-Rose: None yet.

James Bowden: Well done, folks, for sticking with it as long as you have. It is certainly different, isn't it? Or should I say, dot 4, lower D, ENT, "different".

 The final category of extra contractions is what we would now call short forms, "about", "above", "across" and so on. And Grade 3 has several dozen extra of these.

 These are actually probably easier to work out than some of those two-cell signs.

 So, here's a selection:

 A C K is AC and K is knowledge so "acknowledge".

 A N S is "answer".

 B ST sign is "best" and B TH sign is "both".

 B K is "book", L K is "look" and T K is "took".

 C ER is "certain".

 D, double F, C or D, lower F, C is "difficult".

 E B D Y is "everybody" and E TH sign ING is "everything".

 F W is "few" and N W is "new".

 I could carry on. There are plenty more.

 L T for "let".

 M M for "member".

 P and then dots 3 4 5 6 is one of my favourites is "possible", because you can spin it around 180 degrees and it still reads "possible".

 S T S is "sometimes" and Y D is "yesterday".

 Many of these can added to, just as you can in Grade 2, so, for example, M M is "member". You could have OW sign M M is "remember".

 C E R is "certain", so C ER and then dots 4 5 is "certainly".

 And so on.

 They are, I think, a lot easier to learn and use than some of the two-cell signs, like, dot 4 TH sign is "than".

 We have now basically covered all the different categories of extra signs in Grade 3 and you'll notice that a lot of them might only save one cell over the Grade 2 version, like B T H is only cell shorter than writing out the word "both". B ST sign is only one cell shorter than writing "best". But it's the frequency of all these reductions that makes Grade 3 that much shorter than Grade 2.

 The next thing that we do in Grade 3 is, as we've already said, miss out spaces. Basically, the concept of what we used to call sequencing, that is omitting spaces between "And", "For", "OF", "THE", "WITH" and the letter A has been expanded. So "IT" and "AS", X and Z have been added.

 You could also omit spaces between groups of the two-cell contractions as we saw earlier and also between most of the lower cell signs.

 "It was the right time," no spaces needed and all those signs should be familiar from Grade 2.

 "She came over the other day," just a few more additional signs. Dot 4 S H is "she". "Came" is dot 4 5 6 bottom C or dot 3 6. "Over" is dots 4 5 6 O. "The". "Other" 4 5 O. And "day", dot 5 D.

 Always leave a space after a punctuation mark or before a punctuation mark at the beginning like a quote or a bracket.

 The final thing that you can do in Grade 3 is omit certain vowels. It's called outlining and you can basically remove vowels which are not significant, as they basically put it. So, most single vowels, except the first vowel, unless it's an A, can be removed. For example, the word "grade" is G R, don't need the letter A, and we can just have the letter J for DE at the end. So, G R J is "grade". But "grand", because the A is already part of a contraction, you keep that, so GR AND sign is the same.

 "Statistic" doesn't need any vowels. It's ST sign, T, ST sign, C.

 If I had a word like "specific", SP sign, that's GH, the first vowel is an E so I must write that and then C F C, the two letter Is will disappear.

 "Bottom" is B O, you can't remove that because the first vowel is not A, so B O and then lower J for the double T, the second O can go and then you have the letter M. So, B, O, lower J, M is "bottom". But "top", I have to write out because T P on its own would be "tap". So "tip" or "top" you have to write out.

 "Date" would be D followed by lower J.

 One of my favourites is the word "possession". P, O, double S is dots 4 6, the next vowel is an E so I can omit that and then another dot 4 6 and then, remember dot 6 being IAN or ION, I can use that to finish the word: P, O, 4 6, 4 6, 6 = "possession".

 You can't get rid of two vowels. You should use one of the two vowels beginning with signs. So, we have a word like "sheep". The SH sign and then dot 5, two vowels beginning with E, and then P.

 You also don't remove a vowel if it's already part of a contraction. So, if I had a word such as "garden", G, the A is actually part of an AR sign so there's no point removing that, you might as well keep it in, G, AR sign, D, EN sign.

 "Grand" is another good example. G, R and then the AND sign, just as normal, don't need to remove that.

 You also shouldn't remove a silent E, especially at the end of a word. Compare, for example, the word "far" and "fare". "Far" F AR sign and "fare" F AR sign E, you have to write that out.

 So, that is a summary of Grade 3. We also have some resources if you want to learn more about this, if I haven't completely fried your brain and you think this is a really interesting thing like I did. There is actually a website called grade3braille.com which does have some interesting information, including some books. If you're in the UK and would like something hard copy, I actually wrote a pamphlet about this code. I actually wrote it back in the 90s and then updated it a couple of years ago when I found more information. My document is not an official document and Grade 3 is not an official code, but it's a fascinating code and great for your own personal notes.

 Ben, do we have any hands?

Ben Mustill-Rose: Yes, so we've got a question from Bruce.

Bruce: If I remember right, I was doing some research on this, am I right that dot 5 I is the word "if"?

James Bowden: No, dot 4 I is "if". Dot 5 I is "import".

Bruce: Okay, but my point is what's the point of that 4 I for "if"?

James Bowden: Because you don't need to put the space after it.

Bruce: Ah! Okay.

James Bowden: So, if I said, "if I was to learn Grade 3", I could write that:

 Dot 4 I, no space, I, no space, lower G, no space, lower G, no space, L E A R N, space, because I've written a word out in full, "grade" G R J, no need to write the letter A and remember that J is DE at end and because I've written another whole word, I have to write a space there and then 3. Does that make sense?

Bruce: Perfectly. Thank you.

Ben Mustill-Rose: We're going to come to Klaudia next.

Klaudia: Is there a difference between the document and the website? So, will I be fine with the document or should I go along with the website as well?

James Bowden: The document is a summary of Grade 3. It gives you all the signs plus some other stuff we haven't covered. So I didn't talk about numbers, for example. That's another thing that's slightly interesting in Grade 3. The document should give you everything you need in the main and grade3braille has some other resources which you might be interested in. Why not look at both?

Klaudia: Okay, thank you.

Ben Mustill-Rose: Thank you, Klaudia. We have Bue next.

Bue: My name is Bue Vester-Andersen, I'm from Denmark. I'd say that for some time I've been working on a way to make Grade 3 computer-translatable, meaning that you can actually make a Grade 3 document on a computer, using the programming library called Liblouis which you might have heard about. It's been used in programs like JAWS and NVDA and also in many braille note takers. That would mean that if I completed this project, we could actually have Grade 3 in our screen readers and note takers, but only for translation into braille, not for back-translation, so you could not have your notes written in Grade 3 back-translated to full text.

 The project was originally a sort of proof of concept thing that I wanted to see if I could actually do it and I think this could get to really work but, as a matter of fact, doing the next stage of the project would actually require some work on my part so I would like to hear if that would be interesting to anyone that we could actually have Grade 3 in our screen readers or if it's just something that people would use for personal notes. If it was interesting to somebody other than myself, I might actually try to complete the project.

 The reason this requires some work now is that after applying all the theory and the principles, this is all about getting all the words right and accounting for all the exceptions and for all the exceptions from the exceptions etc.

James Bowden: It's a fascinating project, Bue, thank you, and I have to say, I have seen it and I actually have it running in a window here just in case I needed it just now.

Ben Mustill-Rose: That's a pretty ringing endorsement. Thank you for that. If you want to ask anyone else about that, probably one resource that we could recommend would be the Braillists forum, so braillists.org/forum, that's a discussion group that you can post on and you can talk to a good selection of braille enthusiasts from around the world.

 We're going to come to Amanda now and then David.

Amanda: About 15 years ago, I did a postal course on Grade 3 braille with the Hadley School or Hadley College for the Blind.

James Bowden: Oh, yes, in America.

Amanda: They sent all the information and the books out and it was really good fun. I don't know if they still do it if anybody is interested but it was good fun.

James Bowden: Thank you.

Ben Mustill-Rose: Lastly we're going to come to David Weston.

David: I found tonight fascinating, interesting, challenging. Some of it seems very logical, some of it very illogical but going back to when I learned braille in 1977, certain things like "Christ", "God", I was taught then with dot 5. I know they don't exist now.

James Bowden: Yes, they were part of what used to be called the religious signs of Grade 2 and there were nine of them. Dot 5 C, dot 5 G, dot 5 J, for "Christ", "God, "Jesus". There was G R for "grace", G L for "glory", H L for "holy", 4 5 6 U was "unto", F T H was "faith" and S T H was "saith". I believe they were all removed, I think, in the 80s. I remember learning them myself but, yes, there we are, well remembered.

Ben Mustill-Rose: Thank you, David. Thank you, everyone who has submitted a question and/or attended this Master Class and of course, thank you, James, for delivering yet again an incredibly informative hour on a subject that I don't think many other organisations would be talking about. I know that I've learned a lot and I'm sure that everyone else will have done as well.

 For now, from the Braillists Foundation, it's been a pleasure to be with you this evening. We will see you once again in September for our next Master Class and it remains to say, take care, stay safe and bye for now.

Matthew Horspool: We hope you've enjoyed this episode of Braillecast Extra. You can find more braille-related content by subscribing to Braillecast, all one word, in your podcast client of choice or listening to Braillecast: Connecting the Dots for Braillists Everywhere on your smart speaker.

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 In the meantime, on behalf of everyone at the Braillists, thanks for listening and bye for now.

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