**Why does music make us feel sad?**

Blog post 2, Alice Gilmour

July 2022

Transcript

*[music: opening few bars of Barber’s Adagio for Strings]*

Hello and welcome to my sound blog. Today I'm going to be talking all about why certain pieces of music make us feel sad. How does it do that? Is it the actual frequencies going into our ears? In what circumstances does the piece often get played. All those things. I’ve always found it fascinating – it’s very hard to quantify – music seems to speak directly to our emotional core.

And the piece of music I’ve chosen, not only was it voted the saddest music ever written, it’s Samuel Barber’s Adagio for Strings, but also because there have been other versions more recently. It’s become a bit of a dance / rave anthem. I say recently, it was 1999! And there is also a Tiesto version from 2005. So I thought we could look at those as well at the end and think well, why doesn't that make me feel sad? Maybe it does, so I hope it’s going to be interesting. But let's start off by listening to it first. Like I said, it’s just over eight minutes long and it was composed by Samuel Barber, an American composer. So let's listen to this recording. This is the Saint Louis Symphony Orchestra recorded in 1981, and the conductor is Leonard Slatkin.

*[music: Barber’s Adagio for Strings]*

I hope everyone’s alright! So in order to think about why that makes us feel sad, if indeed it did make you feel sad - I would imagine it has done for most people - the way to analyse it for me is that I'll look at all the aspects, so the melody, the key it's written in, the instruments he's used, the structure, all of those things, and try to pull it apart and see how he's achieved this incredible piece of music.

Starting with the key, it's quite well known that a major key makes us usually feel happy and a minor key makes us feel a bit more sad. Now there is still lots of research going on as to why. But I have my own theory. I think that it's quite simple. Anything connected to ‘up’ in common usage usually means positive. It means growth, you're feeling up – you’re happy. It’s progress upwards. Then conversely, anything feeling down or going in a downward direction, you feel down, falling down the black hole. You know, we all use these words to describe positive things and then more negative things.

And if you listen to a major chord. So I'm just playing a chord of C major here.

*[music: C major chord played on piano, followed by a major third – C and E natural]*

Now listen to the major third of C and E natural. Now an F is the closest note to the E. It seems to want to pull us up. In the scale of C major the F is the nearest note, but if it went down to D, that would be two semitones, so he seems to want to pull up to the F. So that's pulling us up. That's expansion. That's positive.

*[music: C minor chord played on piano, followed by a minor third – C and E flat]*

Conversely, the minor key so that’s C minor, has an E flat. Now that E flat wants to pull downwards to the D that sits closest. Note that's a semi tone down. The nearest note in the other direction is an F, but that would be a whole tone away.

So that's my very basic theory on why a minor key or minor third feels sad and a major third feels happy. It's pulling us upwards. There is also research that suggests that when listen to conversation or you analyse recorded conversations of someone who feels positive and happy, you will find major thirds in there. You’ll have someone talking upbeat like this, they’re happy, they’re vibrant. Their voice probably goes up and down a lot, whereas someone who's feeling more down, we will get more minor thirds.

So Barber chose to put this in a minor key. So generally, that's already going to be more likely to be sad, than happy. He's also put it in B flat minor, which is quite an unusual key to use, particularly with stringed instruments. It is a key that has five flats. B, E, A, D and G are all flat and which leads me onto an interesting point with the choice of the instruments and the timbre that he gets from them. In the string orchestra because all those notes, it includes the EADG which are the open strings on stringed instruments (other than the C on cellos and violas). All of the string instruments are not playing any open strings and there are no open strings available to resonate. So you already getting more subdued tone from your string orchestra. If they were playing in D major, you'd hear the open strings resonating with the notes that they're playing. But now these are all flat, and that's a very deliberate choice that gives it a more muffled, more subdued tone, I think.

And also choosing stringed instruments to play and lyrical, long noted piece like this, there's already something tentative, something kind of delicate about that. Stringed instruments, when they are playing on mass, they can creep in very, very quietly and then swell up to a large, vibrant note with lots of vibrato. They don't have a very hard transient start to the note, not like a trumpet or an oboe or something, where you have a very definite start to the note. Violins, cellos, violas, they can all creep in. And in this piece, I think he uses that to great effect. So the we're not quite sure when things start. It's all a bit ethereal and unsure tentative.

But just to elaborate on the choice of instruments, there is a traditional sense in which sometimes, say, a violin is often sad. Certainly in musicals you'll find that the violin always gets the sad tune. But I don't think it's necessarily always sad, because if you think about like an Irish jig or a Country and Western song or a real hoedown tune, that's got some fantastic, upbeat, violin-y kind of folk sounds in it. So, it's not always sad. So that we can say that cello is often used for sad things. You know, again it's lower. So anything lower I think is going to feel sad, but yes, we can't say exclusively that stringed instruments are always sad, but they *can* be very sad. You can play very expressively, with lots of emotion, and like I said, with a very tentative start of the note, especially when you have a whole whole mass of them.

But going back to the key thing, there are songs that are in the minor key; songs like *Money, money, money* by ABBA. It's not sad, it's mysterious. It's a bit dark, but it's not sad. *Fever* by Peggy Lee. That's in a minor key. That's just kind of sultry more than anything. And then there are songs that are very sad that are in a major key. One classic is *Everybody hurts* by REM. But anyway, So we’ve got a minor key, and the key that's got all those flats, so therefore a more subdued tone he’s getting out of the instrument.

Then let’s look at the melody. I'm just going to talk about it and then I'll play a little bit. But very unusually, the melody starts all on its own. This single note just comes in, and we don't really know what's going on. That's very unusual. If you think of most pop songs, they nearly always have the harmonic structure coming first. You have a few chords play. And they set down the key, and they prepare a bed for the melody to land on. There’s something secure about that. There's something that is very settled. It's very easy on the ear. We know where we are. So this is so unusual - the violins coming on their own, and then the chords just creep in and then immediately shift. So there's nothing steady for us. There's no kind of nice secure harmonic bed here. So let me just play that.

*[music: Barber’s Adagio for Strings opening bars]*

And then the tune itself that the violins play is very hesitant. It's been described as ‘*the hesitant climbing of stairs’*, which I think is a really good description. That's by Joanna Keller, who wrote about it in the New York Times. The violins climb then drop back, then climb again and drop back, then climb, there’s a moment of repose, and then fall right back down again. This happens all the way through the piece. The tune always kind of wanders around like it's searching, desperately searching for something. And the chords shift around underneath it, giving it no support. Really it's all a bit untethered.

And one other thing to mention here is that the piece is full of tension. Listen to that held note while the chords shift below them. It creates a tension whereby you're waiting for that note then to either go down or to go up to resolve and that again gives a real feeling of uncertainty. Let me play you that first section. Just listen to the violins. As soon as that cord is shifted suddenly the note they’re holding doesn't feel right, and we're just waiting for it to feel right. So here it is feeling not right.

*[music: plays chord from the opening few bars]*

And here it is feeling right.

*[music: plays another chord which resolves the previous one, from the opening few bars]*

So our ears are constantly waiting, waiting for this. So we've discussed the melody, we've discussed those shifting chords. Also, sometimes throughout the piece, Barber uses very bare orchestration, so sometimes there are lot of open fifths. Which is like a chord but without that middle third which gives it all the body. So we hear a lot of open fifths, so notes one and five of the scale, and that gives it an air of unhappiness, of not being fully filled out.

Also, there is no discernible rhythm. It's very slow, obviously. Now that already is fairly sad. I don't think you could ever have a really sad piece that was a great rhythmic, upbeat fast number. So anyway, it's obviously very slow. But it has no regular rhythm, no kind of set four in a bar that we can hold on to. Barber writes it in four two, which is four minims in a bar, but it goes into five two, it goes into three two, so there's nothing for us to hold onto. We're not looking at the score, we’re just listening. And sometimes the phrase seems to go on for extra long, and sometimes it seems short. We just don't know where we're at. It's not very reassuring. Everything feels a bit uncertain.

Next is his the use of repetition. Now obviously this is used in so much music, but what I think when I listen to this piece is that we hear that opening phrase, first in the first violins, then we hear it in the violas so we have violins above them, and cellos and basses below. Then we have it in the cellos and we only have the violins and violas above – we don’t even have the basses below. So it's almost like it's asking this question, and then re framing the question because nobody answers, re framing it again with the cellos, and then it builds and builds to this unbearable climax. Where it's almost like it's crying out into the void. It really wants an answer. It needs help. And at this pause, there is this silence. To me, it is the most heart-breaking moment of the whole piece. The silence. It’s ironic, isn't it? And I defy anybody not to have a lump in their throat at that silence.

Then after that we have these very quiet, sombre, shifting chords just going down all together, the whole orchestra is moving together. Then we have a repeat of the opening section, but this time there is a difference. Now the violas are also playing the tune with the violins. So it's as if the person shouted into the void. Nothing. Then uncertain chords, They’re thinking what to do. And now they've decide, ‘No, I'm going to ask the question again - I'm firm, I'm a bit more resolute this time. I'm not going to stop’. So they ask the question again. And then this time, it sort of ends up there on this major chord and you think they'll go back at the B flat minor. But no, he just repeats that last phrase, the crotchets that the violins were playing are now minims. So its an emphatic ‘No, I’m gonna stay here on the major chord. I refuse to go back up to the minor, which is the negative. This time I'm staying in the major’. And so it reiterates that phrase, and that's where the piece ends with this emphatic F major chord. So to me. I feel that yes, the piece is unbearably sad getting up to that climax point and the silence. But I think if you really listen and understand that last bit, I think there is an element of hope, of renewal, of ‘No, I will persist’.

And one last interesting thing - when I opened it up as a sound file in my music software, I saw that this piece which is nearly nine minutes long, regarding the climax and the silence – it happens at almost exactly six minutes, so two thirds of the way through the piece. And that last third is just the reiteration of the first one. And I don't know whether that has the same resonance in classical music as it has said with the visual arts, where there's always this rule of thirds. Or the golden ratio. So whether that makes it also very pleasing to the ear, I’m not sure.

Anyway, so finally to context. Samuel Barber was American. He was only in his mid 20s when he wrote this piece, originally for string quartet. He grew up in conservative Pennsylvania. He was gay. I think he was aware of it from quite a young age, he wrote to his parents, saying he didn't like football when he was only about nine. And he said ‘All I want to do is compose and I have been longing to tell you this’. And he sounds like quite a serious child. He had an uncle who was a songwriter. He was a great supporter of his and in fact, this piece is dedicated to him and his wife so his uncle and aunt. So I don't know whether when you know this, it sounds like an outpouring of him growing up as a gay man and not being able to live openly and honestly. Because in the 1930s, I think that would have been not a very easy thing to do.

And it was written in 1936, just before another war was about to breakout. They would all have the memories of World War One and yet everything around the world was falling apart again. In fact, when he rewrote it as a piece for string orchestra, it was premiered in 1938, so just a year before the war. Toscanini conducted it, who was this great Italian conductor who had just fled Mussolini's fascist Italy. And they were all well aware of the way Jews were being treated in Germany. All the horrors they were hearing about, so imagine hearing this piece? It was on the radio with the NBC Symphony Orchestra. It was a huge hit. What a beautiful but sombre and desperate kind of elegy for the fact that they were tipping into a World War again. So that gives it a rather sad context.

Then of course it was used for funerals for Roosevelt and JFK. It's been used in movies – the sad bits obviously: Oliver Stone's *Platoon* showing the horrors of the Vietnam War. David Lynch's *Elephant Man* at the end, when he lies down, we know he's going to die. So I think you know, once you've heard the piece in those situations or you know about Barber, you can't help but hear sadness in it. The pathos of all these things.

But if you listen to it, and I defy anyone to have a go at this, listen to it whilst looking at a beautiful sunset, or just something beautiful in nature and especially with that optimistic ending, maybe it won't feel so sad. But whereas if you watch war footage, everything anyway cannot but feel sad and devastating.

So with that information about the context in which it's been used, I think we can't help but hear it as a sad piece of music. But interestingly, in 1995 William Orbit did a version of it. Now he really just re-recorded the whole piece, but just with synthesisers instead of the violins, cellos, basses, et cetera. So I don't really understand what the point that was, though I would agree that he brought it to a new audience. Which is fantastic. So people knew him more as a music producer and it was played on Radio One and things like that. So people got to hear it as a fantastic piece which is great.

But what *was* brilliant was the remix by Ferry Corsten and that's the famous kind of rave tune which came out in 1999, and got to number 4. And then Tiesto did a more recent version in 2005, which I don't think is quite as good. But let me play you just a little bit of the Ferry Corsten one. Just imagine being in a massive warehouse somewhere, you're with all your friends, you have been having a great night, dancing away to some full-on techno and the DJ starts mixing this in.

*[music: Barber Adagio for Strings remixed by Ferry Corsten]*

So I'm sure everybody felt in that context, it still feels kind of quite awe inspiring because if you know the piece, you will recognise it and say ‘that's that sad piece of music’. But you're in such a different context. You're in a place where you're dancing, and the main thing I think that is different, is there isn't that structure, that heart breaking structure when it's just the string piece. And also he's added a beat. As soon as you have a beat something regular like a heartbeat, we feel more secure. We know where we going. Everything is happening at a certain frame of reference. So therefore I think we can say that these remixes of the piece aren’t sad, there's a euphoria, there's a recognition of a very epic tune, and there's none of that desperately sad structure of these swelling phrases and the lack of rhythm, the lack of beat within the original

And also the minor key - lots of techno is in minor keys. It sort of revels in being a bit dark, a bit trancey, a bit other-worldly, a bit nightclub-y. So it doesn't make you feel sad, it just means you are in a different space. But that's all very personal. Maybe some people do feel sad listening to techno. Maybe they feel horrified. I don't know. Yeah, it's going to always feel different when you're hearing it dancing away with your friends. It's a collective experience that something warm and enveloping. You hear those wonderful rushy kind of noises that Ferry inputs over the top of it. Something that dance music producers do is what's called the Gulfoss effect, which is named after a huge waterfall in Iceland. And what they do is they fill every frequency. You can hear the top frequencies being turned down and then pushed back up again. And there is this big wash of lovely noise. It tickles your ears. It's pleasurable. So he's added those elements to the music as well as the beat, and I think it really it sounds great and I imagine everyone's hands in the air, everyone living life to the full. Those were the days!

Anyway, that's all my ramblings for today. Just to reiterate, the factors that make the Adagio feel sad are, in my opinion: the key - the minor key always being down, it pulls us down; the melody with those tentative steps we never quite sure it's going, it keeps falling; the harmonies and the tensions that they create – they make us unsettled and there's no solidity to it. Then the rhythm – there is no rhythm. Then the structure of the piece, this reiterating of the question in different instruments in the orchestra until it grows and grows and grows, until that intense loudness followed by silence. That's very sad. And then the use of stringed instruments that are like human voices and using them in a flat key, so they are more muffled.

But I think having talked about it and looked at it myself, I feel that there is a tiny bit of hope at the end. I think there's this resolute voice saying ‘I'm going to keep on asking the question’. And I think listening to the dance music versions show us that when you change the context of where you're hearing something, you change just a few of those elements, you can change it from desperately sad, to euphoric, uplifting, epic.

So that is the end of my sound blog. Thank you for listening.

*[music: Barber’s Adagio for Strings remixed by Ferry Corsten, fading out]*