A VOYAGE OF MUSICAL DISCOVERY

AUSTRALIAN ROMANTIC & CLASSICAL ORCHESTRA

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Education Kit #3 2020
TEXTURE & TIMBRE

About

The *Voyage of Musical Discovery* Education Kit is aligned with the **Music 2 and Music Extension – Stage 6** NSW HSC Music Syllabus. The material below is a stand-alone learning resource, but full educational benefit is achieved by working through the activities in conjunction with attending the live *Voyage* presentation on **Wednesday 5 August 2020, 6.30pm** at City Recital Hall, Sydney.

Voyage of Musical Discovery is presented in two parts – orchestral and chamber music from the Classical or Romantic era performed in historically-informed style followed by Australian works written in the past 25 years performed by guest contemporary ensembles, improvisers, singer songwriters or a cappella voices.

Voyage establishes and demonstrates the many connections and links between the musics of different times, places and styles, and augmented by the Education Kit, listeners are given the information and tools to compose and create sounds and pieces of their own.

Voyage #3 – **Texture & Timbre**

Australian Romantic & Classical Orchestra arco.org.au

MOZART Serenade No.6 in D major Serenata Notturna, K.239 (1776)
Mozart intended his serenades to be performed outdoors, and drew attention to the timbral qualities of the different instruments by dividing the players into two groups. With gut strings and Classical timpani, the Australian Romantic & Classical Orchestra replicates and explains this unusual 18th-century sonic texture.

Taikoz taikoz.com

IAN CLEWORTH *Home* (2017)
Since the time of Mozart, the role and prominence of percussion instruments has steadily increased. Taikoz – Australia's award-winning taiko drum ensemble – perform a work to demonstrate the dynamic range, explosive energy and broad expressive capabilities of percussion.

Voyage of Musical Discovery
booking information

Texture & Timbre

Timbre – the individual colour or character of the sound of an instrument or voice, independent of its pitch or volume.

Texture – the density or thickness created by combining the individual instrumental colours in melodic, harmonic, and rhythmic layers. Texture is a broad term that applies in some way to every discussion about the ways the many musical elements interact.

For detailed information, examples and exercises about the interplay and development of melodic, harmonic and rhythmic motifs to create larger horizontal textures – refer to the **Motivic Development** Education Kit accompanying **Voyage #1** (March 2020).

Examples and exercises relating to the textures created by the different vertical layering of parts – from homophony, polyphony, heterophony and beyond – can be found in the **Voices & Instruments** Education Kit accompanying **Voyage #2** (April 2020).

The **Texture & Timbre** Education Kit looks at the individual timbral qualities of different instruments – and with a focus on percussion – how these are combined in orchestrational textures to highlight sound colours.

Timbre

Timbre belongs to the field of psychoacoustics, a branch of psychology that deals with our perception of sound and its effects.

Being originally a French word, we give the second syllable a more French pronunciation than in English: timbre rhymes with amber. Even earlier, the word came from the mediaeval Greek word *timbanon*, meaning drum.

1. Does Sound Have A Colour?

You may have heard of **white noise** – an ingredient in electronic music for synthesising snare drums or cymbals, and is also the static of a mistuned or empty radio station. And if you have been in a venue when the PA is being checked, you will have likely heard **pink noise** being sent through each speaker to test the response across all frequencies.

Yet, the words we choose to describe the timbral qualities of individual instruments are more often approximations or comparisons, and each person will hear instruments and sounds from their own perspective and informed by their own experiences.

As a musician or composer, it is important that you learn to hear and identify the distinguishing tonal features of instruments. Classify and label them in your own way.

Chromesthesia

Chromesthesia is a type of synaesthesia – a linking of different sensory pathways – where some people associate a specific colour with a sound or musical note. Well-known musicians who have reported experiencing this phenomenon include Liszt, Sibelius, Rimsky-Korsakov, Scriabin, Duke Ellington, Olivier Messiaen, Itzhak Perlman, Billy Joel and Aphex Twin.

2. EQ

Although the defining timbre of an instrument remains consistent and recognisable in different contexts or situations, there are still many ways of altering aspects of the sound quality of individual instruments. Some obvious examples include adding effects pedals to an electric guitar, or having trumpets play with harmon mutes. A good way to think of these shifts in tone is to compare them to the EQ settings on an amplifier or music app – alterations to the level and prominence of low, middle and high frequencies in the sound.

But even without this technology, Mozart manages to create a sudden change in the string timbre already in the opening seconds of *Serenata Notturna.*

Listen to the first section

In combination with changing the range and dynamics, adjusting the surrounding instrumental texture makes the strings appear to take on a different timbre. In particular, the presence of the timpani alters our perception of the overall sound, and Mozart emphasises this by writing the string parts in a punctuated way and oscillating between just two notes, as if they themselves are pretending to be drums.

In the following example, he goes even further by having the tutti strings play soft *pizzicato* with the timpani – making the two bars resemble distant percussion.

Listen to this section

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3. Role of Percussion

Mozart's mixing of timpani with strings is ingenious and orchestrationally effective. However, it still belongs to a musical period when percussion rarely went beyond providing rhythmic support or adding ornamental flourishes to string- and wind-dominated ensemble textures. It took until the 20th century for percussion instruments to outgrow this role, and one of the composers to lead the change was Edgard Varèse (1883–1965). His motivation for increasing the prominence of percussion was to explore timbral potential in music – in particular to find instruments able to produce clear sounds in the extremes of range and dynamic. One of his works where this is beautifully demonstrated is *Ionisation* for 13 percussionists, written between 1929–31. In his New York apartment studio, Varèse had a large collection of percussion instruments from all corners of the globe, and his curiosity for discovering new sound colours extended to including pre-recorded sounds, analogue electronics and speaker arrays in performance.

Parallel to these developments in Europe and the United States, the percussion instruments of Japan were also taking on new roles. Ian Cleworth, artistic director of Taikoz, explains that two key terms are **taiko** and **wadaiko** – the first refers to the drum itself, and the second encapsulates the broader art of Japanese drumming. Traditionally, taiko were heard as part of religious ceremonies, to accompany community theatre and the collective retelling of stories, regal events, to usher in the seasons, and to commemorate births and deaths. In these situations, there were usually just one or two drums playing a single or double instrumental line.

In the 1950s, the taiko emerged as a musical voice in its own right – due in part to jazz drummer Daihachi Ōguchi (1924–2008) arranging different sizes and types of taiko in a set up reminiscent of the Western drum kit. This ushered in the idea of combining multiple timbres and pitches in a drum ensemble, and led to the rapid growth of the mixed drum ensemble as the entity we know today. There are now thousands of such groups around the world performing in this way. Taikoz developed from a collaboration in 1997 between Ian Cleworth (taiko) and Riley Lee (shakuhachi), and is now a leading force in music and theatre performance, touring, commissioning and education.

(Taikoz information is from *Wadaiko: A Handbook* by Ian Cleworth, 2014.)

Introduce yourself to the many different sized drums by listening to the first four or five minutes of *Home* – performed live by Taikoz. As each player enters, note the clarity of the timbre even at soft dynamics, and how each individual part remains audible even when the texture progressively thickens.

Home – complete performance on Vimeo

━● Soundscape

Every object has a sound – split up and quickly locate a sound-making object in the room. Something you can scrape, hit, shake, tap, squeeze or stamp on.

Where possible, decide whether your found object has:

• short or long sustain

• low, medium or high pitch

• mellow or bright timbre

Figure out a simple repeating pattern that best represents the timbral qualities of your new instrument.

As a group, create a soundscape that successively introduces each sound. You could go around the room clockwise, with each sound entering and continuing one ofter another. Or, appoint someone to switch the different sounds on and off with hand signals

There does not necessarily need to be a unifying groove or rhythmic sense – the point is to observe how the different timbres overlap, and what textures emerge.

To get some ideas about how to create sounds with non-traditional instruments, have a look at these clips:

Anita Gritsch – Body Noster

Music for One Apartment and Six Drummers

Klangfarbenmelodie

A German term that means *sound-colour melody*. A compositional technique dating from the early-20th century where a melodic line is divided between different instruments to emphasise textural and timbral shifts in the sound.

4. Create Contrast & Highlight Difference

One of the most exciting things about combining sounds from different instruments and sources, is discovering ways to create timbral contrast and highlight difference. While the late-Romantic orchestras of Strauß and Mahler are lush and varied, they grew from a tradition of establishing homogeneity and blend in the sound as a whole. This has led to a text book approach to orchestration still often taught today where each instrumental family is introduced in order – beginning with the upper then lower strings, winds, brasses, percussion, then perhaps a final section on electronics or non-Western instruments. The danger with this for the composer is that the further down the list the instruments are, the more these tend to be treated as exotic effects or colouring devices.

All instruments are colour instruments – each and every one has a unique and special sound, and your job as a composer is to find ways to extract the colour from them, not add colour to them! Whatever your palette of sounds is – whether choir, strings, laptops or vacuum cleaners – look for effective ways to amplify, disguise, and enliven one sound with another. When mastered, this technique can become the very core of your compositional approach – the motifs, themes, harmonies, rhythms and vertical textures all expand from the orchestration, or combinations of timbres.

In Mozart's time, a serenade was performed at festive occasions and events outdoors – not-so-serious background music for the well-to-do of Salzburg. In many cases, the pieces may have been performed just once, then discarded and forgotten. It is likely that Mozart saw these works as possibilities to try out ideas, and experiment with more unusual combinations of instruments and sounds.

The *Serenata Notturna* has the following non-conventional features, increasing the scope for contrast and surprise in the timbres and textures of the work:

• the strings are divided into a quartet and tutti
• the quartet has a double bass instead of a cello, and plays the trio alone
• presence of timpani
• is just three movements (many other similar pieces included up to eight)

Now that the work is performed in concert and recital halls, groups tend to have many different ideas about how the instruments can be set up in performance. Some place the quartet in the foreground in an arc, with the remaining instruments seated like a conventional chamber orchestra. Others have the timpani in the centre at the front – as in the video referred to earlier.

The spatial arrangement of instruments on stage has a profound effect on the perception of sound for players as well as listeners. When writing for groups – especially non-standard combinations – consider the set up in the early stages of writing. Make sure that softer or non-amplified instruments are audible, and that any intricate dialogue is aided by good sight lines – and create your combinations accordingly. Many composers will provide a suggested seating plan in the information pages of the score.

The clarity evident in the opening build up of *Home* by Taikoz also owes much to arrangement and set up of the performers. The distant **shinobue** – Japanese traverse flute – at the beginning focusses our attention immediately on the stage. It seems to prompt us to wonder: Where is that sound coming from? What is about to happen?

5. Individual Personalities

In *Home*, the players coming onto the stage one by one reinforces the sonic prominence of each pattern. The effect is theatrical in the sense that we do not simply hear a drum, but an individual person playing a particular drum from a specific area of the stage. The movements, gestures, stance and facial expressions of each player become parts of the sounds themselves.

In the chamber music from Mozart's time too, having one player per part allows greater degrees of freedom and personal expression than when playing tutti parts in a section. The many small inflections and individual shaping that musicians do – often without being aware – add energy and life to an ensemble texture. In particular, when composing with the help of notation software playback, be aware that a group of real-life musicians does not create the type of bland uniformity in texture that computer samples are prone to.

Get to know the particularities of each instrument, and what it can do:
• how a note is articulated
• how long it can be held
• what the dynamic span is
• how the timbre changes between low and high, and loud and soft

Get to know the idiosyncrasies and expertise of individual players by asking the following questions:
• what do you do best?
• what is it that makes you love your instrument?
• what music do you listen to?
• who or what instruments do you prefer to play with and why?

Building improvisation into a work also provides a further opportunity to highlight the individual personalities of players. The performance of much mainstream classical repertoire today places little or no emphasis on the art of improvisation, yet this was central to the music of Mozart and many others.

Listen to the humorous and historically-informed way the players interpret the pauses in the final movement of the *Serenata Notturna*.

Throughout *Home*, the players of Taikoz work together to create a unified structure built up from overlapping and interlocking rhythmic cells. Often these develop and grow by way of an incremental series of improvised decisions.

There are also parts where individual players extend the written material with improvisation:
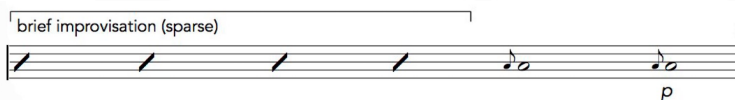
Larger structural components of the work can also be omitted depending on, for example whether voices or an electronic track are present for a given performance.

Making a work modular in this way ensures it is adaptable for different groups, performance situations, venues or time constraints.

Notice that the group performing the *Serenata Notturno* has added a harpsichord to the texture – making changes to the official score based on conventions of the day.

Improvised elaborations and changes to written-out phrases, as well as providing optional or different versions of the structure, have the potential to make each performance of a work different – an alternative to the idea that a composition has one correct or authentic outcome.

Mobile

American composer Earle Brown (1926–2002) wrote a series of works in the 1950s inspired by the sculptures of Alexander Calder (1898–1976). Looking at Calder's slowly revolving mobiles that often filled an entire room, Brown wrote graphically-scored pieces to emulate the sensation of a work moving and catching the light in different ways each time you viewed it, yet were still the same object.

━━● Play Area

Start with a blank sheet of paper, a pencil or black marker, and a ruler.

Design a single-page score that consists only of horizontal and vertical lines of varying thicknesses and lengths. No lines should touch, cross or interlock.

When you are happy with your design, give the work a title and write it at the top. No further symbols, performance instructions or explanations – e.g., keys, tempo, dynamics, clefs, instrumentation, style or duration – need to be written in.

Choose a group of four or five players. In each group there should be at least three obvious contrasts of timbre e.g., a voice, an instrument, and something percussive.

Scan, photograph or photocopy your score, so that each player in the group has their own copy.

Decide on a duration collectively and set it on the timer app on your phones (switch to silent, but disable auto-lock / screen off).

Spread out and perform the work together by following the lines on the page and keeping an eye on the timer. Each player is free to interpret the lines with sounds, pitches, dynamics, volume and effects of their choosing.

You may start anywhere on the page, go in any direction, and not every line needs to be turned into sound. The white areas between the lines are also part of the score, but recall that even silence can have a sound.

Your aim as a group is to create a piece of textural music – do not be overly concerned about form, dialogue, rhythmic synchronisation, or telling a specific story. Let the listeners enjoy hearing the exchange of timbres between the different personalities of the instruments.

This type of open-form work can be regarded as a play area – an invitation to compose collaboratively in real time. Works such as these can definitely be performed, but also provide excellent raw materials for when composing and scoring with texture and timbre at the forefront. A free section such as this can be inserted into an otherwise scripted work, or some of the accidental combinations can be later transferred into notation.

Anticipated Learning Outcomes

Definition of Texture & Timbre – including word origins and pronunciation – with focus on orchestration and percussion

Establish wider connections with texture and with reference to the Motivic Development and Voices & Instruments kits

Introduce concepts of sound colour, ambient sound, silence and John Cage

Explain white noise, pink noise, and approach for individual sound colours

Define synaesthesia and relationship to music and sound

Draw parallel between timbral shifts and EQ settings, supported by examples from Mozart

Background to the changing role of percussion by referring to Varèse, and development of the taiko ensemble in Japan

Exercise on found sound and soundscapes

Introduce orchestrational approach of all instruments being colour instruments

Historical context of serenade and identification of unusual timbral features in Mozart example

Influence of stage set up on perception of sound, and role of theatrical elements in texture

Individual freedom of expression specific to chamber music

Guide to writing idiomatically for instruments

Role of improvisation from Classical-era music to contemporary drumming

Modularity of form and its advantages

How to create and perform an open-form graphically-scored work

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Related material is contained in further 2020 *Voyage of Musical Discovery* presentations and accompanying Education Kits:

#1 MOTIVIC DEVELOPMENT | March
Australian Romantic & Classical Orchestra
ANTON EBERL Symphony in E-flat major Op.33 (1803)
Nick Russoniello
NICK RUSSONIELLO Suite for Saxophones and Loop Station (2019–20)

#2 VOICES & INSTRUMENTS | April
Australian Romantic & Classical Orchestra
LOUISE FARRENC Nonet in E-flat major Op.38 (1849)
Sydney Chamber Choir
ELLA MACENS *Stāvi Stīvi, Ozoliņ* (2019)
CLARE MACLEAN *A West Irish Ballad* (1988)

Voyage of Musical Discovery 2020 information

Web References

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Australian Romantic & Classical Orchestra | http://arco.org.au

Taikoz | https://www.taikoz.com

Voyage Booking link
https://www.cityrecitalhall.com/whats-on/events/voyage-of-musical-discovery-3-texture-timbre/

Page 4
Mozart opening on Youtube
https://youtu.be/ChSdO6BK6eo?t=10

Mozart pizzicato/timpani example on Youtube
https://youtu.be/ChSdO6BK6eo?t=110

Page 5
Taikoz performing *Home* on Vimeo

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Anita Gritsch – Body Noster on Youtube
https://www.youtube.com/watch?v=EGOcO5DV6JU&feature=youtu.be

Music for One Apartment and Six Drummers on Youtube
https://www.youtube.com/watch?v=sVPVbc8LgP4

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Final movt. of Mozart on Youtube
https://www.youtube.com/watch?v=ChSdO6BK6eo&feature=youtu.be&t=512

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Home from approx. letter M on Vimeo
https://vimeo.com/254143791#t=1050s

Home from solo odaiko on Vimeo
https://vimeo.com/254143791#t=1220s

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