



Lesson: The Sounds and Shapes of Home Composition Project

OVERVIEW

For this project students will learn about aleatoric music and apply what they learn to create an original musical composition using an aspect of their home environments as an inspiration.

LEARNING GOAL

The students will:

1. understand characteristics and techniques of aleatoric music.
2. create an original composition that apply aleatoric musical techniques.

RESOURCES & MATERIALS

- [Aleatoric Music and Nontraditional Musical Notation handout](#)
- [The Sounds and Shapes of Home Composition Project handout](#)
- Manuscript paper or other material used to notate an original composition.
- Recording device if the original composition is not performed live.

PROCESS

Students will:

1. Read the project handout.
2. Read the background information about aleatoric music.
3. Select and describe something about their homes that will serve as an inspiration for their original musical compositions.
4. Identify the aleatoric techniques, instrumentation, and any other essential components they will use to create original musical compositions.
5. Write a project proposal describing their intentions for their projects and submit it to the teacher.
6. Compose an original piece using aleatoric techniques.
7. Perform or record the original musical composition.

ASSESSMENT

A sample rubric is provided as an example of how the project may be assessed.

CATEGORY	10	5	3	R - Redo
Aleatoric Techniques	The composer effectively used an aleatoric technique in a way that demonstrates a clear understanding about the technique.	The composer effectively used an aleatoric technique, but it wasn't the one specified in the proposal.	The use of an aleatoric technique was not very effective and did not demonstrate an understanding of the differences between techniques.	The composer did not demonstrate any understanding about aleatoric music.
Inspiration for the Piece	There seemed to be a clear relationship between the inspiration for the composition and the creative choices the composer made.	There was some evidence of a relationship between the inspiration for the piece and the creative choices made.	The relationship between the inspiration for the piece and the creative choices the composer made was difficult to detect.	The composer did not demonstrate an understanding of the objectives of this project.
Musicality and Craftsmanship	The composition was created with a high degree of craftsmanship, cohesiveness, and expressiveness.	The craftsmanship, cohesiveness, and expressiveness of the composition was generally well done, but would have been improved with some revising.	The piece needs a considerable amount of revising or rethinking of creative choices.	The composition was not completed or the composer did not seem to consider the criteria for this project.
Communicating Intentions	The composer's intentions were clearly communicated through the symbols and the directions provided to the performers.	The composer's intentions communicated through the symbols and the directions provided to the performers were mostly clear, but sometimes questionable.	The composer's intentions were difficult to understand through the symbols and directions that were provided.	The composer did not demonstrate an understanding of how to communicate intent through the use of symbols and directions.

ALEATORIC MUSIC AND NONTRADITIONAL MUSICAL NOTATION

Composers of the 20th and 21st centuries have dramatically stretched notions of what can be considered to be musical sounds. They include sounds from unusual sources in their pieces or use traditional instruments in unusual ways. They also do not feel bound to use the 12 semitones traditionally contained within an octave. With the addition of new approaches to creating music comes the need for new ways to notate the desired musical effects.

We often think of a composer as being the sole creator of a musical composition. In the 20th century, some composers moved in the direction from musicians being the performers of the pieces that the composer created to the musicians, and even the environment where the performance takes place, to be the co-creator of the piece. The performers have an influence in what sounds ultimately become a part of the piece and every performance is different. **Aleatoric music** is music where some element of what is performed is left to chance and/or the decision of what sounds to play are determined by the performer, often with some sort of directions or original type of notation that doesn't necessarily identify specific pitches or rhythms.

The types of aleatoric musical techniques used generally fall into three categories:

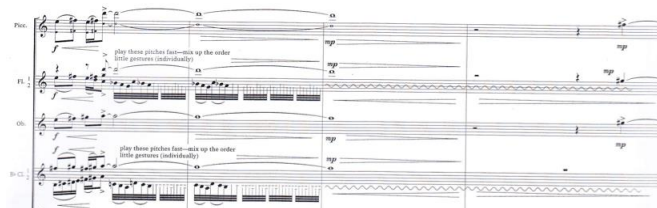
1. The composer uses of some sort of random procedure that is used to select specific pitches and rhythms that make up the piece. This is sometimes referred to as “**chance music**.”
2. The composer creates specific “events” or groupings of notes, but the performer decides how to organize them or in what order to play them. This technique is sometimes referred to as “**open form**.”
3. The composer uses **indeterminacy** through **graphic notation**.

For chance music, a composer may roll some dice, use a randomizing computer program, or use other methods to allow chance to determine the selection and order of pitches and rhythms. In this case, the performer still performs specific pitches and/or rhythms. It is the creation of the piece that is determined by chance – not the performance. John Cage composed a piece titled *Music of Changes* (1951) where he chose pitches by using an ancient Chinese book called *I Ching*, which described a method to determine random numbers. Around 1947-1948, John Cage created the ultimate in chance music. His 3-movement work, *4'33"* was performed by a single player or group of players sitting in complete silence. The music was the sounds that occurred in the surrounding environment within the performance space.

Open form music utilizes traditional notation to indicate the specific pitches that the performers are to play, but the speed, order, number of pitches, or number of repetitions the pitches are performed are determined by the performers. In 1964, Terry Riley composed a piece titled *In C*. Although it wasn't written for a specific number of performers, the score suggested that 35 players would be desirable. The piece consisted of 53 short phrases of music that were numbered. Each phrase was from one and a half to 32 beats long and contained specific pitches and rhythms that were to be played in numerical order (although the players could choose to skip some,) but the performers chose when to enter and how many times to repeat each phrase, and when to move on to the next phrase. The piece began with one performer playing the note C at a steady pulse to establish the tempo.

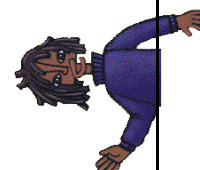


Susan Botti uses open form techniques and graphic notation in *Eye of the Hawk*. In several places throughout the piece, she provides some groupings of specific pitches, but then directs the performers to “play these pitches fast – mix up the order little gestures (individually.)”



The earliest musical notation used to represent musical sounds began with squiggles, lines, and dashes that eventually developed into shapes. Shapes evolved into specific notes. With the addition of new sounds to musical compositions, some 20th century composers have returned to the use of shapes to symbolize the sounds they want to be performed in their pieces. Indeterminacy is a technique that a composer uses where there is no specific pitches or rhythms provided for the performers. Composers have to create their own original symbols and instructions to guide the performers in creating musical sounds. Graphic scores abandon standard musical notation for geometric shapes or designs that suggest how sounds are to be performed.

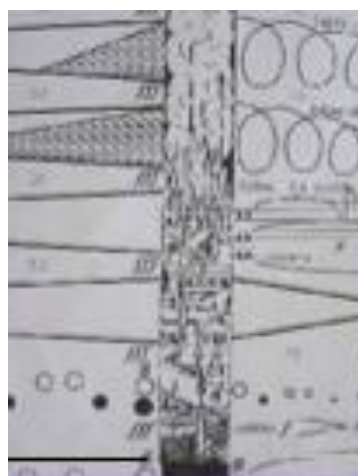
In his orchestral piece about the WWII bombing victims in Hiroshima, *Threnody to the Victims of Hiroshima*, composer Krystof Penderecki used triangles and straight and wavy lines in the string parts to notate the sounds he intended. Other composers of orchestral pieces that have used graphic notation include György Ligeti, and Karlheinz Stockhausen.



Susan Botti is not the only composer to create a work for band that includes graphic notation. Michael Colgrass used graphic notation in *Old Churches*, in this case a squiggly line, to indicate a “murmuring” sound. Other band composers have also used graphic notation to have performers create sounds that cannot be symbolized with more traditional notation.



In his work for concert band, *Symphony #1: In Memoriam Dresden – 1945*, Daniel Bukvitch portrays the bombing of Dresden on the night of February 13, 1945 and the resulting “Fire Storm” that killed 150,000 men, women and children. *Symphony #1* is composed in four movements. The piece builds to the fourth movement where the sounds of a “Fire Storm” are recreated. A variety of graphic symbols are used to indicate whistling, blowing air through instruments without mouthpieces, lightly tapping the lips of performers mouths while making a “shh” sound, and whispering, mumbling, speaking, shouting and then screaming the German words, “hilfe, feuer, raunch, faeuertaufe and feuer sturm.” To emphasize the emotional climax of the “Fire Storm,” Bukvitch uses a drawing of Dresden burning.



As composers continue to include sounds never used before in musical pieces, they will continue to create new ways to represent those sounds. In some cases, the notation may “jump off the page” and symbols may not be confined to being printed on paper. Creativity and innovation will be required for composers to realize the sounds they imagine as music - and musical notation will continue to evolve accordingly.

References:

Griffiths, Paul. 2001. "Aleatory". *The New Grove Dictionary of Music and Musicians*, second edition, edited by Stanley Sadie and John Tyrrell. London: Macmillan Publishers

Joe, Jeongwon, and S. Hoon Song. 2002. "Roland Barthes' 'Text' and Aleatoric Music: Is the Birth of the Reader the Birth of the Listener?". *Muzikologija* 2:263–81.

Roig-Francolí, Miguel A. 2008. *Understanding Post-Tonal Music*. Boston: McGraw-Hill. ISBN 0-07-293624-X.

Solomon, Larry J. 1998 (revised 2002). *The Sounds of Silence: John Cage and 4'33"*

https://en.wikipedia.org/wiki/Aleatoric_music

<http://www.britannica.com/art/aleatory-music>

www.Sweetwater.com/insync/aleatoric-music-composition

www.infoplease.com/encyclopedia/entertainment/aleatory-music.html



THE SOUNDS AND SHAPES OF HOME COMPOSITION PROJECT

The challenge of a composer is to be able to symbolize musical sounds so that the music may be performed by others. In the 20th and 21st centuries, notions of what is considered to be musical sounds have greatly expanded to include more than just what can be shared through traditional musical notation. Composers have had to get creative in how they notate sounds, causing many composers to invent their own unique notation and musical directions. In addition to nontraditional notation, another innovation of the 20th century is the practice of the performer becoming an equal partner with the composer in the creation of the piece. Instead of always having to faithfully and accurately read the specific pitches and rhythms provided by the composer, for many pieces the composer provides some directions and/or less specific notation that serves to provide guidance but not dictate what the performer is to play. Many of the musical decisions to be made are left to the performer to decide.

In *Eye of the Hawk*, Susan Botti composed a piece inspired by the experience of watching a hawk flying near her home in the Hudson River Valley of upstate New York. There are several places in the music where she notates some groupings of specific pitches, directs the performers to “play these pitches fast – mix up the order, little gestures,” and she draws a wavy line to indicate for how long the performers continue their improvisations. Having the performers make some of the decisions about how they will follow the composer’s instructions is an example of aleatoric music. **Aleatoric music** is music where some element of what is performed is left to chance and/or the decision of what sounds to play are determined by the performer, often with some sort of directions or original type of notation from the composer that doesn’t necessarily specify specific pitches or rhythms.

For this project, you will learn about aleatoric composition techniques and apply some of those techniques to composing music inspired by the sites and sounds of the area where you live. Here are the steps you will follow:

1. Read the handout with background information about aleatoric music so you can become familiar with possible composition techniques you may use to compose your piece.
2. Think about the surroundings of where you live. Is it in the city? The country? The suburbs? Are there certain sites or sounds that you encounter at your home that can be an inspiration for a piece of music? Choose something to inspire you.
3. Think about how your inspiration can be shared through music. What kinds of sounds? Will they be sounds that can be produced on an instrument? Vocal sounds? Sounds from nontraditional sources other than musical instruments? A mixture? How will you represent those sounds with symbols? Will you create your own original notation? Use shapes and drawings? How about something 3-dimensional? Will you use chance methods to select pitches and rhythms? Graphic notation and text instructions? How much will you specify what is to be played and how much will be left up to the performer(s)? How many musicians will the piece require to be performed? Which aleatoric technique(s) you intend to use for your piece.



4. Write a brief proposal for your project to submit to your teacher. In just a few sentences describe your inspiration, which aleatoric technique(s) you intend to use, the number of performers the piece will require, and what kind of instruments or other ways you intend to create the sounds. As you begin the process of creating your piece, your plan may change, but having a plan to start the project will provide a direction for your work. Perhaps think about your piece telling a story. Here is an example of what a proposal might include: "I live in the outback of Australia and wild kangaroos frequently can be seen in my yard. My piece will be called Out Back in the Outback. I will create a type of notation that indicates the player should start in the middle range of the instrument on a random pitch, drop lower, and then jump to a higher random note to represent the jumping of the kangaroo. As more kangaroos enter the yard more instruments will randomly perform the leaping notes, with higher instruments representing the smaller kangaroos and lower instruments representing larger animals. There will be a sudden sound that causes the kangaroos to freeze and then a sudden burst of sounds as they run away. Then there will be a single instrument slowly playing the leaping sound again as one brave kangaroo returns."
5. Use an aleatoric composition technique to compose a brief original piece of music based on what inspired you about the home where you live.
6. Perform your piece for other members of your class or record it.

IDEAS FOR CREATING ALEATORIC MUSIC

- Design shapes, lines, or pictures that somehow represent the kinds of sounds you want performers to create. Be sure to provide a key or written instructions to guide how the **graphic notation** should be interpreted (indeterminacy.)
- Experiment with finding combinations of pitches that complement the melody you created and provide instructions how to use those pitches to accompany the melody to create a piece using **open form** techniques.
- Set up a table or grid (see below) that associates a specific pitch with number from 2 to 12 and then roll a pair of dice to select the pitches that you will use to make up your melody and the order that the pitches will occur. Or you could take the title of your piece and set up a similar grid that associates a specific pitch with each letter of the alphabet and use that **chance technique** to select pitches for your melody. You could use similar techniques to determine rhythms and other musical elements

2	3	4	5	6	7	8	9	10	11	12
Bb	C	D	Eb	F	G	A	B	Ab	E	F#



Have fun and be creative in "making your animal sing!"

