

EDUCATOR GUIDE

Artist: Amy X Neuburg
Discipline: Music (Experimental)

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Still image from SPARK story, 2007.

SECTION I - OVERVIEW

SUBJECT

Amy X Neuburg

GRADE RANGES

K - 12

CURRICULUM CONNECTIONS

Visual Arts & Performing Arts

OBJECTIVE

To provide a forum for students to explore electronic music and its history and to creatively express their responses to experimental sound.

STORY SYNOPSIS

Since the mid-1980s, Amy X Neuburg has been combining her staggering vocal abilities with electronics to create music that defies categorization. Spark pays a visit to this ground-breaking musician as she prepares a new song cycle entitled *The Secret Language of Subways*.

INSTRUCTIONAL STRATEGIES

- Group oral discussion
- Teacher-guided instruction, including demonstration and guidance
- Hands-on individual projects in which students work independently
- Hands-on group projects in which students assist and support one another

INSTRUCTIONAL OBJECTIVES

- To introduce students to avant-garde styles of music
- To provide context for the understanding of how electronics are used in contemporary music
- To inspire students to explore and respond to their relationship to music

EQUIPMENT NEEDED

SPARK story about Amy X Neuburg on DVD or VHS and related equipment.
Computer with Internet access, navigation software, speakers and a sound card.

MATERIALS NEEDED

Access to libraries with up-to-date collections of periodicals, books, and research papers
Pencils, pens, and paper
Musical Instruments (traditional or homemade)

MEDIA MATTERS

The following SPARK stories can be used for compare/contrast purposes:

- Paul Dresher* and contemporary/experimental music
<http://www.kqed.org/arts/people/spark/profile.jsp?id=4758>
- Pamela Z* and Technology Enabled Art
<http://www.kqed.org/arts/people/spark/profile.jsp?id=4743>
- Loren Chasse* and Sound Art
<http://www.kqed.org/arts/people/spark/profile.jsp?id=4606>
- Terry Riley* and Electronic music
<http://www.kqed.org/arts/people/spark/profile.jsp?id=4929>

INTELLIGENCES ADDRESSED

- Bodily-Kinesthetic - control of one's own body, control in handling objects
- Interpersonal - awareness of others' feelings, emotions, goals, motivations
- Intrapersonal - awareness of one's own feelings, emotions, goals, motivations
- Spatial - ability to manipulate and create mental images in order to solve problems
- Logical-Mathematical - ability to detect patterns, reason deductively, think logically



See more information on
Multiple Intelligences at
www.kqed.org/spark/education.

SECTION II – CONTENT/CONTEXT

CONTENT OVERVIEW

Since the mid-1980s, Amy X Neuburg has been combining her staggering vocal abilities with electronics to create music that defies categorization. Working both as a solo performer and as part of a number of ensembles, Neuburg writes, records, and performs a hybrid style of music she calls “avant-cabaret.” Spark pays a visit to this ground-breaking musician as she prepares a new song cycle entitled *The Secret Language of Subways*.

Neuburg primarily uses electronic instruments in her work: programmable drum pads, mixers, and a looper, which allows her to instantaneously record and playback sound. Before she can perform a song, Neuburg must prepare each of these devices, a task that can take weeks of experimenting with an array of configurations and functions. To these tools she adds her astonishing voice, which boasts an impressive four-octave range.

In performance all sounds are executed live. Despite Neuburg’s reliance on electronic instruments, she uses no prerecorded tapes or canned sound. Looping allows her to create a sound live and repeat it to build a dense and dynamic sound texture. In addition, Neuburg leaves little room for improvisation as each sound is meticulously scripted, every note precisely choreographed.

Subtitled “A Song Cycle About Love and War and New York,” Neuburg’s latest opus, *The Secret Language of Subways*, is composed of twelve songs that were largely conceived while riding New York’s subway system. Using urban metaphors to examine questions of love, loss, deceit, art, and social responsibility, *The Secret Language of Subways* is Neuburg’s most ambitious work yet, both in terms of content as well as musically. Enlisting the help of Bay Area cellists Jess Ivry, Elaine Kreston, and Beth

Vandervennet, she has put together an unusual and challenging quartet.

Born in Cheltenham, England, Amy X Neuburg began classically training her voice at the age of 13. She earned a B.Mus. from Oberlin Conservatory and a B.A. in linguistics from Oberlin College. Neuburg then went on to pursue a master’s degree at Mills College, where she studied composition under electronic music pioneers Pauline Oliveros and David Rosenboom. In 1987, along with fellow Mills students Joel Davel, Tim Root, and Herb Heinz, Neuburg formed the techno-theatre ensemble MAP, later performing under the name Amy X Neuburg and Men. Neuburg has also performed and toured the world in the operas of veteran minimalist composer Robert Ashley.

THE BIG PICTURE

Though artists like Amy Neuburg are finding new ways to experiment with electronic music, the form itself is hardly new, spanning a history of about a century.

The very first electronic instrument was an instrument called a Teleharmonium, developed by an inventor named Thaddeus Cahill in 1897. Like the Hammond organ, which was to emerge in the 1930s, Cahill’s machine used tone wheels to generate sound but depended on telephone receivers to transmit those signals to listeners. Weighing in at over two hundred tons, the Teleharmonium was not widely adopted mostly for practical reasons.

The most successful early instrument was the Theremin, created by the Russian inventor Léon Theremin around 1920. The Theremin is perhaps the only instrument in the world that is played without

actually touching it. To manipulate sound, the player must move his or her hands around the instrument's two antennae, which manipulate the pitch and volume of the emanating sound. The Theremin produces an eerie *glissando* sound that has left its mark on innumerable film soundtracks. It also provides the distinct electronic sound in the Beach Boys' 1967 classic *Good Vibrations* as well as most of the recordings of the contemporary electronic music group, Stereolab.



Léon Theremin playing his invention
www.wikipedia.org

One of the first significant composers to use electronic instruments was the French-born Edgar Varèse, whose *Poème électronique* was featured at the 1958 Brussels World Fair. Conceived as a melding of traditional and non-traditional musical sound and architecture, Varèse installed 425 loudspeakers at various points in Le Corbusier's Philips Pavilion. The speakers were triggered to sound at specific intervals resulting in a performance that sounded different depending on where one stood within the structure. The development of electronic music accelerated quickly with the inventions of the tape recorder in the 1940s and the sound synthesizer in the late 1950s. As a result of these developments, the 1960s and 70s are often thought of as the golden age of electronic music. In this period, electronic composition became more prevalent in the works of Terry Riley, Wendy Carlos, and others. As the 70s wore on, more performance artists, including Laurie Anderson and Kate Bush, began experimenting with electronic sounds.

But in a sense, a greater achievement was the ubiquitous integration of electronic music through early pop pioneers like the German bands Kraftwerk, Neu!, and later, Einstürzende Neubauten, which set the stage for the synth pop, new wave, and electro of the 1980s. Since then, the influence of electronic music has become so pervasive that it has become impossible to imagine popular music without the impact of these technologies.



Le Corbusier's Philips Pavilion
www.lib.umd.edu

RESOURCES – TEXTS

Chadabe, Joel. *Electric Sound: The Past and Promise of Electronic Music*. Prentice hall, 1996.

Cox, Christoph. *Audio Culture: Readings in Modern Music*. Continuum International Publishing Group, 2004

Holmes, Thomas B. *Electronic and Experimental Music: Pioneers in Technology and Composition*. Routledge, 2002.

Kettlewell, Ben. *Electronic Music Pioneers*. Artistpro, 2001

Lee, Iara. *Modulations: A History of Electronic Music: Throbbing Words on Sound*. Charles Rivers Publishing Co., 2000.

Manning, Peter. *Electronic and Computer Music*. Oxford University Press, 2003.

Young, Rob. *Undercurrents: The Hidden Wiring of Modern Music*. Continuum International Publishing Group, 2003.

RESOURCES – WEB SITES

Amy X Neuburg's website:
<http://www.amyxneuburg.com/>

Wikipedia article on electronic music:
http://en.wikipedia.org/wiki/Electronic_music

EMF-The Electronic Music Foundation, exploring the creative potential and cultural benefits in the symbiosis of music, sound, technology, and science.:
<http://www.emf.org/>

Article on avant-garde composition, including electronic music composers:
<http://www.scaruffi.com/avant/cpt2.html>

VIDEO/AUDIO RESOURCES

Anderson, Laurie. *Big Science*. Warner Bros., 1982.

Craft, Robert. *The Music of Edgar Varèse*. Columbia Records, 1960.

Kraftwerk. *Autobahn*. Philips, 1974.

Neu! *Neu!* Billingsgate Records, 1971.

Neuburg, Amy X. *Songs 91 to 85*. Racer Records, 1996.

Riley, Terry. *Rainbow in Curved Air*. Columbia Records, 1971.

Silver Apples. *Silver Apples/Contact*. Kapp Records, 1969.

BAY AREA FIELD TRIPS

Annual San Francisco Music Festival
Check the latest schedule:
SFEMF.org

SECTION III – VOCABULARY

DISCIPLINE-BASED VOCABULARY AND CONCEPTS IN THE SPARK STORY

Avant-Garde

The experimental treatment of artistic, musical, or literary material. Ahead of one's time.

Avant-Cabaret

Describes Amy X Neuburg's experimental sound, which is a combination of avant-garde styling and cabaret music, which is traditionally a form of theatrical entertainment, consisting mainly of political satire in the form of skits, songs, and improvisations.

Counter-Melody

In music, counter-melody (often one word, countermelody) is a sequence of notes, perceived as a melody, written to be played simultaneously with a more prominent melody.

Drum Pad

An electronic drum. A percussion instrument in which the sound is generated by an electronic waveform generator or sampler instead of by acoustic vibration.

Four Octave Range

Singers are often described as having a four-octave range or a five-octave range. A piano has $7 \frac{1}{3}$ octaves total. When a female singer is described as

having a four- or five-octave vocal range, it is usually understood to mean she is capable of singing notes in the seventh octave.

Harmony

Any simultaneous combination of tones.

Le Corbusier

A French Swiss-born architect and writer, who is famous for his contributions to what now is called modernism, or the International Style.

Looping

A sequence of instructions that repeats either a specified number of times

Millisecond

One thousandth of a second.

Mixer

An electronic device for blending, fading, substitution, etc., of sounds from various sources, as from microphones or separately recorded soundtracks, for broadcast or recording.

Ostinato

A constantly recurring melodic fragment.

SECTION IV – ENGAGING WITH SPARK

STANDARDS-BASED ACTIVITIES AND DISCUSSION POINTS

Listen and respond to the music

Select listening examples from the resource list on page 5 of this Educator Guide (see Amy X Neuburg’s website for listening samples such as “Prayer”, or “Flaky Strudel”), or select your own samples and play for the class. Have students use active listening skills to identify different elements of the music, using correct musical terminology. Identify and label sounds that are loud/soft, fast/slow, long/short, high/low etc. Introduce the appropriate corresponding musical terminology such as forte/piano, rapido/lento, staccato/legato, glissando, crescendo/decrescendo.

- Create simple flashcards to represent these terms – for instance, write an *f* on one for forte, and a *p* on another for piano. Likewise, create a card with a number of dots to represent staccato, and a long line that swoops up and down like a snake for legato. Have students listen to the music again, and hold up the cards that correspond to the sound they hear.
- Extend this activity to discuss emotion in music and how the music makes the students feel, especially with the use of words/poetry in Amy X Neuburg’s music.
- Draw to the music. Using different colored crayons or markers, challenge students to draw what the sounds look like, using one color for forte sounds, another for piano sounds; staccato/legato, etc. Extend this to drawing to the emotive quality of the music, and have students create abstract images associated with the mood of the music.
- Movement activity – young children learn much about tempo and rhythm through kinesthetic movement. Following the previous activities, get up and move to the sound of the music. Challenge students to create movements that

represent the different musical terminology, emotion or even segments of the piece. Create movements that correspond to the different parts of the piece and label them accordingly, such as A-B-A, or, A-B-C-D, depending on how many parts they hear.

Create a performance art piece

Begin by selecting a poem, fairy tale or myth or begin with a writing assignment in which the students create their own stories or poems inspired by events in their own lives.

Using all resources available to you, create your own performance art piece. Set the words - both sung and spoken - to music and rhythm, using any instruments and technology the students are learning or to which they have access. First, engage students in the process of activating their words musically. Listen to the sound of the words, applying literary terminology such as alliteration, meter, tempo, rhythm, tone and the imagery inspired by the language to set the theme of the musical piece.

Translate these descriptions into musical terms, and transform spoken words into melodic or rhythmic lines. The words could be expressed in a stylized way (i.e., nasal, guttural, half-spoken and half-sung, very high chest voice, staccato, monotone, etc.), depending on their meaning, tone, or purely based on their sounds.

Guide students in finding melodic lines if they need assistance by providing them with a set of notes from which to choose, such as a pentatonic scale or a note cluster. Then let students develop what should go under the melodic line, such as a rhythmic ostinato* that also connects or supports the words or mood of that section, a counter-melody* or a bed of harmonies.

*see page 6 for definitions

Using what is available to your class, employ the use of instruments for additional harmonic and rhythmic support or for melodic themes and interludes between verses or parts of the story. The instruments could even take a previous vocal melody and create kind of a theme and variation element.

If you have any basic music editing software (many new computers offer some sort of music recording/editing program or you can easily get programs such as SoundForge, Cakewalk or ProTools if you want to invest in a specific system) you can record students right in your classroom to different tracks and create short repeated “loops” of sound over which more music can be built. This won’t count as a “live” looping experience unless you have access to a mixer and looper, in which case, go for it! However, you can start and stop playing the pre-recorded sounds while playing live on instruments and singing.

Practice and perform the piece for other students and classes. Discuss and analyze the results. If any students are interested in doing a similar project on their own, they could create a short piece for extra credit to be presented to the class.

RELATED STANDARDS

K-2

Theatre

Historical and Cultural Context

3.1 Retell or dramatize stories, myths, fables, and fairy tales from various cultures and times.

Music

Artistic Perception

Listen to, Analyze, and Describe Music

1.2 Identify and describe basic elements in music (e.g., high/low, fast/slow, loud/soft, beat, etc.)

9 - 12: Advanced and Proficient

Music

Creative Expression

2.3 Sing in small ensembles, with one performer for each part.

2.5 Perform on an instrument in small ensembles, with one performer for each part.

2.6 Compose music, using musical elements for expressive effect.

2.7 Compose and arrange music for voices or various acoustic or digital/electronic instruments, using appropriate ranges for traditional and non-traditional sources of sound.

Listen and respond

Watch the Spark episode on Amy X Neuburg with your class. Discuss attitudes and reactions to her music and the relevance of her artistic process to the students’ own experience with music. Engage the class in a discussion of what avant-garde music means to them. Watch some of the other related Spark episodes as well, such as Pamela Z, Loren Chasse and Paul Drescher for other approaches to the intersection between the voice/acoustic instruments and technology and further history on contemporary/avant-garde music.

See Amy X Neuburg’s Web site, <http://www.amyxneuburg.com/music.html> to hear more MP3 samples of her work or order CD’s. (Teachers, always listen first to see what is appropriate for your classroom, both in terms of content and also level of proficiency) From her vast repertoire, listen to, “Flaky Strudel”, “Waltz”, “Giuseppe’s Wings”, “Prayer”, Five Distractions, - “another segment”, and from her album, Residue, “The Tattoo Song” and “Finally Black”.

Give students a research and writing assignment using these recordings as an entry into examining other music from the broader historical perspective (John Cage, Schoenberg, etc.) of avant-garde music, along with its historical, sociological and artistic impact and its capacity for self-expression.

RELATED STANDARDS

9 -12 Proficient

Music

Historical and Cultural Context

3.2 Explain the various roles that musicians perform, identify representative individuals who have functioned in each role, and explain their activities and achievements.

9 -12 Advanced

Music

3.1 Analyze how the roles of musicians and composers have changed or remained the same throughout history

3.2 Identify uses of music elements in nontraditional art music (e.g., atonal, twelve-tone, serial)

Diversity of Music

3.5 Compare and contrast instruments from a variety of cultures and historical periods.

Aesthetic Valuing

4.1 Compare and contrast how a composer’s intentions result in a work of music and how that music is used.

4.2 Analyze and explain how and why people in a particular culture use and respond to specific musical works from their own culture.

Proficient:

4.4 Describe the means used to create images or evoke feelings and emotions in musical works from various cultures.

The Artists' Way – A Discussion

In this Spark episode, Amy X Neuburg states that she is fortunate to be living “The artist’s dream” – to have no limitations creatively, and to have the freedom to do basically whatever she wants to do in her art. She also says that with each new project, she tries something new, manifesting a new life experience or concept into the work, and that the constant striving for innovation is part of what fuels her creativity.

Discuss this notion of what it means to live an artistic life. If there were no obstacles, what would each student like to do? This could be extended into a conversation about life choices and career choices as well. How do we all live with limitations and how do we overcome them? What benefit might there be to having limitations? What happens when there is a creative block? What kinds of life experiences do students have that they could interpret through art? How do artists process and transform their joys, disappointments, fears and painful experiences through art? Challenge students to research music they know and cite examples that support their observations on the transformational power of music.

SPARKLERS:

- **Singing Rounds.** To get a sense of how digital looping works, you can first start by singing a round. Everyone knows “Row, row, row your boat”, so sing as a round and focus on how harmonies are created just by each musician displacing the start of the song by a four beats.
- Compare and contrast natural “looping” with the digital form. Investigate recordings by artists such as Zap Mama, or of traditional musicians from the Pygmies of Central Africa. You’ll hear an amazing polyphonic soundscape without the use of looping – it’s all done by the voices of the musicians live – yet it achieves an effect that sounds like it’s been looped. Then listen to recordings by Amy X Neuburg or Philip Glass, Pamela Z, or Laurie Anderson. Technology has made it possible for one person to create and perform multi-level compositions. Discuss students’ attitudes toward these different styles. Explore the compositional difficulties and

potential for expression of both acoustic and digital music from a composer’s point of view.

- Explore traditional vocal music from around the world and compare and contrast how different cultures use the voice melodically, harmonically and as rhythm instrument, exploring its full potential for range, dynamics and color. Find recordings from the Pygmy people, the Tuvan throat singers, the Inuit of the far Northwest, African American gospel singing, flamenco, North and South Indian singing styles, Native American singing, bebop and scat singing, opera, and vocal artists such as Bobbie McFerrin and Amy X Neuburg. Break the class up into groups and have students research, compare and contrast the different cultures’ sounds. Students should use a common vocabulary to describe how the music sounds, such as timbre, color, dynamics, polyrhythmic or monorhythmic, head voice, chest voice, range, whistle tones, monotone, melismatic lines, harmonics, etc. Additionally, investigate the *function* of the music within each culture. Pose questions such as what kind of music is it, why is it sung, where is it sung, when is it sung, how was it created and by whom, and what is the societal status of those who sing it? Share results with the rest of the class.
- Invite students to research Edgar Varèse’s *Poème électronique*, which was featured at the 1958 Brussels World Fair, which was the first major World Fair after World War II. Aside from *Poème électronique*, a giant model of a unit cell of an iron crystal called the Atomium was presented at the 1958 Brussels World Fair, which remains the best known landmark in Brussels. What other new inventions were presented at the historical event? Have students share their findings with the class.

For more information about SPARK and its educational content, visit the Web site at <http://www.kqed.org/spark/education>.



For more information about California Educational Content Standards, visit the CA Dept. of Education at <http://www.cde.ca.gov/be/st/ss/index.asp>