PART 1: MELODIC STRUCTURE

INTRODUCTION:

DOWNLOAD IMPROMPTU AT:

www.tuneblocks.com

T*uneblocks* are the basic melodic structures that we intuitively follow when listening to melodies. More often called motifs or musical figures, these are the melodic segments that carry music along from one goal of musical motion to arrival at the next. .As Arnold Schoenberg put it:

> Simplified practice forms, which do not always correspond to art forms, help a student to acquire the sense of form and a knowledge of the essentials of construction. It will be useful to start by building musical blocks and connecting them intelligently. These musical blocks (phrases, motives, etc.) will provide the material for building larger units of various kinds, according to the requirements of the structure. Thus the demands of logic, coherence and comprehensibility can be fulfilled, in relation to the need for contrast, variety and fluency of presentation.
>
> *Fundamentals of Musical Composition*, P.2.

We have programmed these structural figures to be used as musical puzzle pieces. Playing with them in a sort of analysis-in-action, these intuitive units of perception become your units of work. You will be using your already powerful musical intuitions, to explore how music makes the sense that we hear as "just there."

EXPLORATION 1:

Reconstructing Melodies With Tuneblocks

The Project

1. *Listen closely to a given tune and to its pre-programmed segments called tuneblocks.*
2. *Drag blocks into the Playroom, putting them in order so as to reconstruct the whole tune.*

Using *tuneblocks* to reconstruct melodies is like putting together a jigsaw puzzle. Instead of arranging pieces of a picture so they become the whole, you will arrange melody pieces so they become a whole tune. Playing with tuneblocks, you are given a whole tune instead of a whole picture and a set of blocks made from the given tune. But there are several important differences: When doing a jigsaw puzzle, its given pieces sit still on the table to be seen and used whereever you need them; but doing a tune puzzle to be heard, the sound of the given

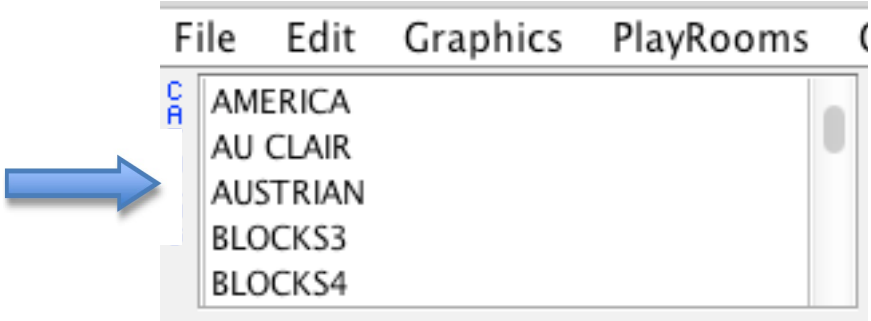
blocks disappears in the hearing. And unlike jigsaw pieces that are usually arbitrary in their cutting, tuneblocks are carefully designed to group the notes of the tune into structurally meaningful motifs. In reassembling the melody, you may find that the given tuneblocks segment the melody differently from the way you might have when first listening to the song. That raises an interesting question: What musical features create the grouping and boundaries of melodic figures that you hear, and how might that differ from one person to another?

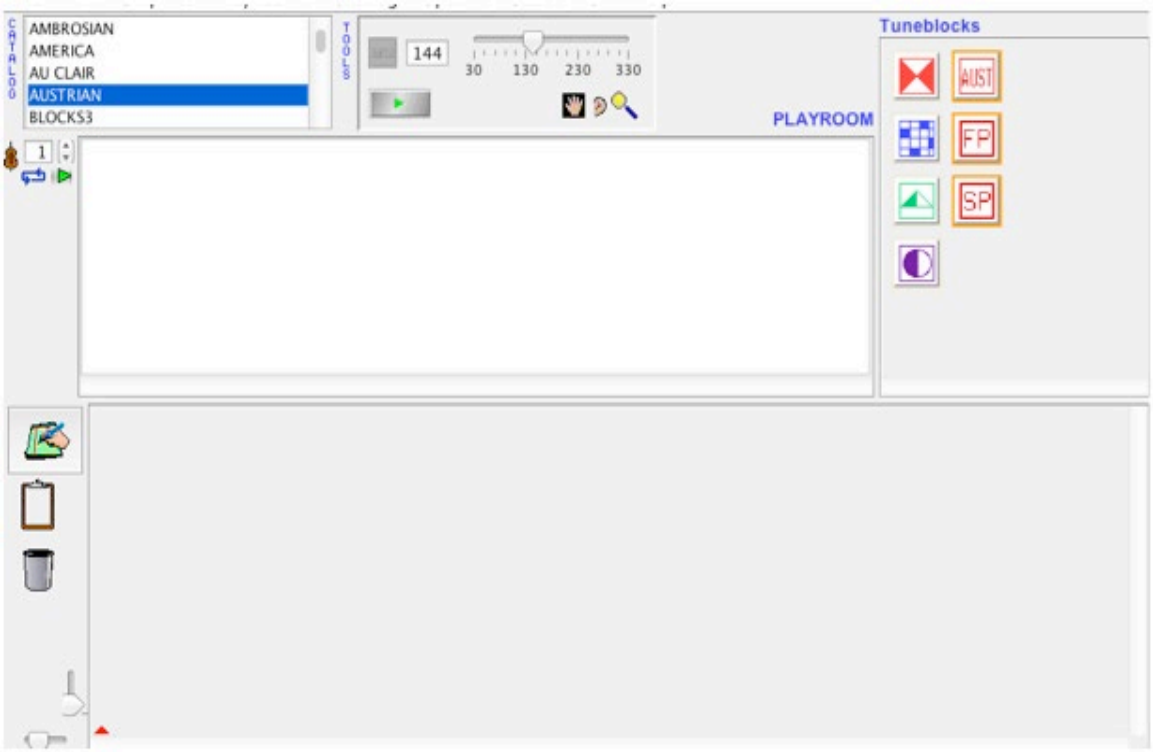
As you are building, you will quite naturally move blocks around, putting them into different musical contexts. And as you move a block into a new context, the same block may seem to "change who it is." That is, the block may assume different roles—in one context sounding like an ending, and in another context functioning more like a beginning. What makes tuneblocks responsive to their musical surroundings?

Reconstructing tunes can be a rather mechanical, mindless activity, especially if you just play with the technology. But if you listen carefully to the results of your experiments and think about the decisions you make, some general principles will emerge that help to explain what generates the musical coherence we all hear and which seems to "just be there." We will return to some of these principles later. Meanwhile, to get acquainted, work through the following example using the tune called "Austrian"—an Austrian folk song.

RECONSTRUCTING AUSTRIAN

1. Scroll down in the catalog and select "Austrian"





AUSTRIAN IN THE PLAYROOM

2. With Austrian in the PLAYROOM, click the block marked AUSTRIAN and listen closely to the whole tune. As you listen, try to imagine how you would segment the tune into blocks.

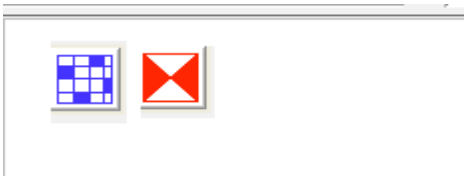
Click the Austrian block

3. Click and listen to each of the patterned tuneblocks—the puzzle pieces for reconstructing the whole tune. As you listen think about the possible **function** of each block—for instance, an ending, a middle.....?

4. Click FP (FirstPart) and listen carefully to the beginning of the tune. Find the tuneblock that matches the start of FP and drag it into the Playroom.

The start (first block) of FP

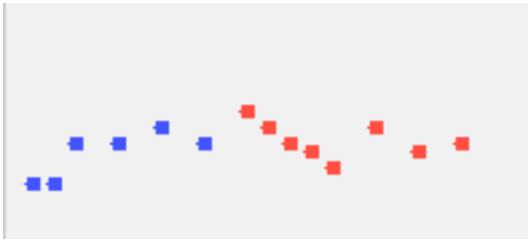
5. Listen for the next block in the tune. Drag it into the Playroom



The beginning pair of blocks

To listen to the tune in the Playroom so far, press the space bar

F**ollow the graphics** at the bottom of the screen **as it goes along.**



6. Continue building up the tune. When you have finished FP, continue on in the same way to build SP.

Options:

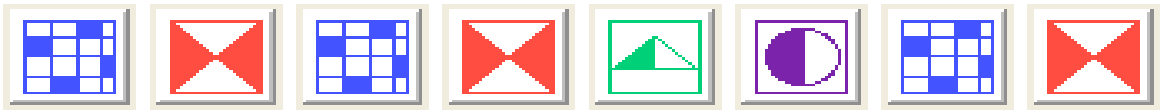
* You may delete a block from the Playroom by tapping it and clicking the X
* You may Insert a new block into the row or move blocks around to new places in the row.
* You can use the same block more than once in building the tune.
- You may click on any block in the Playroom, then on its green arrow, to hear all the blocks that you have added next.

7. When you are happy with your reconstruction, listen to Austrian once more and check it with the tune you have built.

8. If in doubt, you can test your puzzle solution by opening up Austrian:

Select the magnifying glass cursor and hold it down on the Austrian block .

This will open a new window that will show the blocks arranged to form the block contents of Austrian.



THINGS TO NOTICE

*** EXPLORATIONS 1***

Like most familiar tunes, we can listen to Austrian at 3 different structural levels; each level is a grouping within the next higher one. The three levels together make a “structural tree

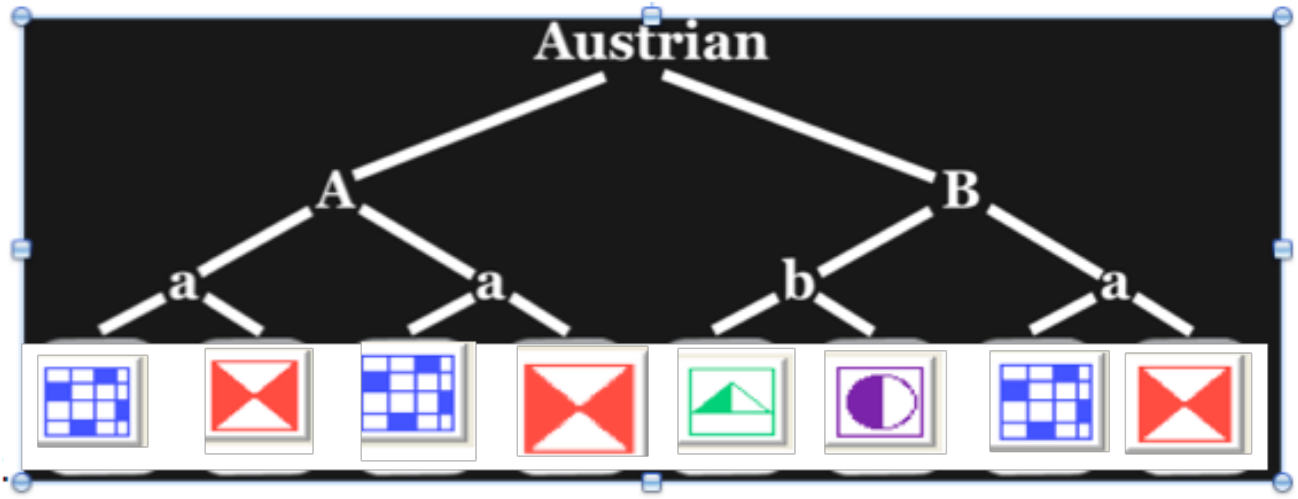


Figure 1 Austrian's Structural Tree

Blocks make up the lowest, most detailed level. These *motifs* or "figures" are the smallest *structural* elements. Blocks group together to form *mid-level* structural elements, what we usually call *phrases* . The phrases are labeled "a" and "b". Notice that "a" is repeated followed by the contrasting "b"phrase, and then a return to "a". At the phrase level the whole structure of Austrian can be described as a a b a.

Phrases group together to form *sections* labeled A and B. B includes the contrasting "b" as well as the return. At this level, Austrian would be described as having simply two parts, A & B.

As you listen shift your attention from one level to another—from detail to larger design. Notice how as you focus at different structural levels, the tune seems almost to move differently.

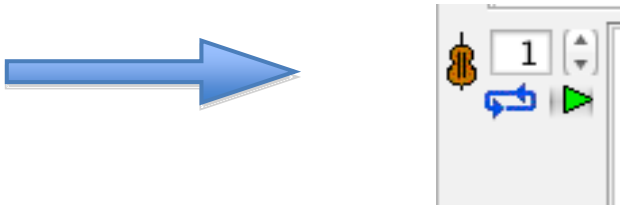
TO DO: Reconstructing 5 songs

Choose 3 songs from Group 1 and 2 songs from Group 2

GROUP 1	**GROUP 2**
HOT CROSS	ROCK-A- BYE
LASSIE	YANKEE
EARLY	SUZANNA
STAR	
SUR LA PONT	

*** EXPLORATIONS 2 ***

You may select different instruments to play songs. To see the instrument currently playing, click on the violin icon at the left edge of the Playroom:



To see the instrument menu, click and hold down on the violin icon. Select and click on a new instrument. Now PLAY your tune and see how it sounds with your selected instrument.

You may also select alternate graphics. The default graphics used previously are called "pitch contour." Pull down the Graphics menu and select Piano Roll:

Piano roll graphics

*** EXPLORATIONS 3 ***

The tunes you have reconstructed so far may have seemed too simple to be interesting. But this very simplicity carries with it the "primitives" from which much larger and more complex compositions grow and develop. It is just these *generative primitives* that composers depend on both for essential coherence and also for creating unique complexity and feeling.

While there may be individual differences among our hearings, there are also deeply shared similarities. It is these intuitively shared similarities that form a common basis for "making sense." In anticipation of your playing with more extended pieces, it will be useful to make some of these shared structures more explicit.

Some Shared Coherence Makers

--Repetition, Function, Context—

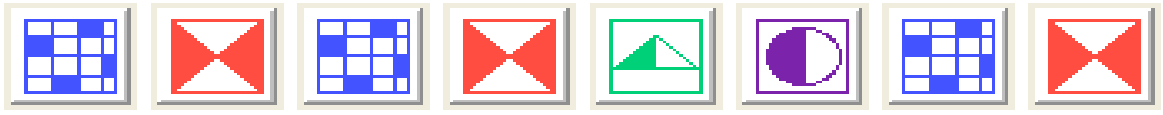
As you certainly discovered, folk tunes include much repetition. Repetition presents an interesting paradox: repetition helps to define what we hear as a musical entity, a tuneblock, but strangely, we often don't hear these repetitions. Why?

Most often it is because when the same block appears in different contexts, it can assume different *functions*. For instance, if you built Lassie, you may have had the following experience: You finished building FP, listened to SP, and then said to yourself, "I need another block; the beginning of SP isn't here." Why didn't you recognize that you already had the block that begins SP? As one student put it, " In FP that block sounds like a 'sort of half-ending;' how come the same block sounds like the beginning in SP?"

Lassie FP Lassie SP

What, then, do we mean by "the same?" At one moment a block may function as an ending, while at another moment, it may function as a beginning. Interestingly, we are all able to hear these situational-functional changes without anyone explicitly teaching us. Indeed, it is often easier to recognize beginning or ending *functions* (arrival and departure), than to recognize that the same block with all the same *properties* (same pitch and time) is occurring again.

--Sequence— 5 6



5 6

What makes these two blocks similar?

In addition to literal repetition, blocks are related to one another in more subtle ways. For instance, drag the 5th and 6th Austrian blocks into the PLAYROOM again . Listen to them once more and pay special attention to the pitch contour graphics.

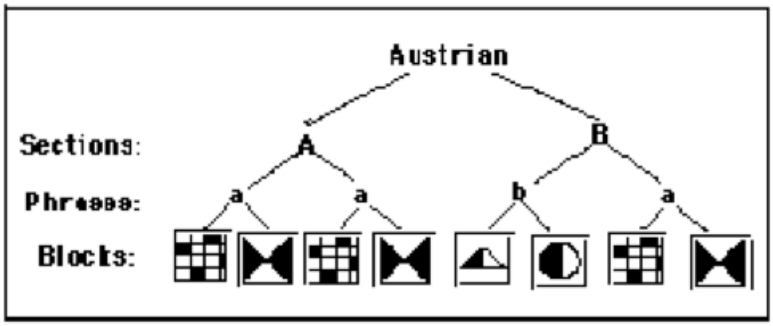
As you can see and hear the two blocks have the same melodic shape or *pitch contour*, but *Block 6 is a moved-down version of Block5.* The pitch contour and rhythm of a figure stays the same but the whole figure may be (repeatedly) moved down or up. This kind of similarity between two figures is technically called a "sequence." A sequential series forms a kind of chain of linked figures carrying the pitch motion up or down. In working on Austrian, the children said of blocks 5 and 6, "It's the same thing only shoved down."

Did you hear any sequences in the other tunes you reconstructed? The recorded examples at the end of this chapter include excerpts that illustrate some of the many ways composers have used sequences to move a melody along. As you listen to the tunes again, notice the role that repetition and sequence play.

*** EXPLORATIONS 4 ***

--Structural Hierarchies—

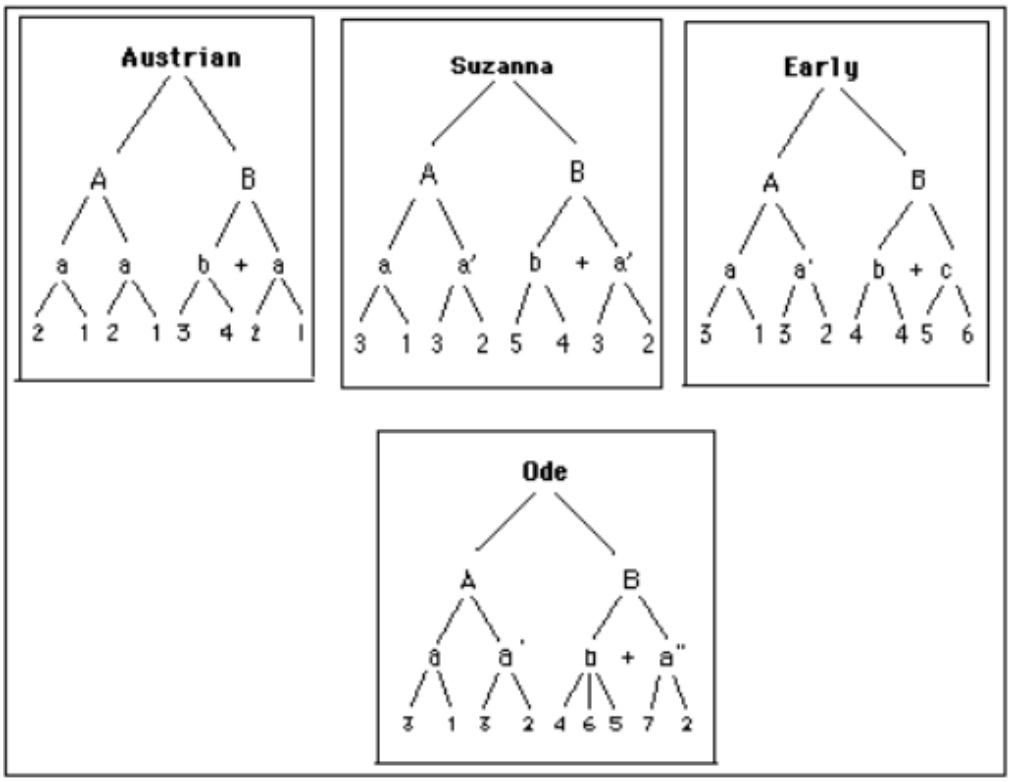
All of the tunes you have worked with so far generated several levels of structure. Just as in Austrian, the given blocks in each set are the smallest meaningful structural elements of a tune. These *motifs* group together to become bigger blocks called "phrases." On first listening to the tune, you may have quite reasonably focused on these mid-level phrases. Phrases, in turn, can be grouped together to form still higher level structural elements, usually called "sections." This is much like in language where the hierarchy is made of words, phrases, and sentences. Recall the diagram of Austrian:



The tree diagram is a general representation of hierarchical structures. Can you think of other structures in other media that can be represented as trees? For instance, a poem (sentences, stanzas, sections,), the classification of animals (insects, fish, mammals), etc.

COMPARING FOUR TUNES: STRUCTURAL TREES

If you want to go into more detail, listen again to each of the tunes in Group 1 and compare their structural trees shown below. Despite the general similarities among them, the structural differences also help to account for differences in the *character* among the four tunes.



Looking at the structural trees and listening or singing the tunes to yourself, it's obvious that the largest structures are much the same—each includes two large sections (A & B). However, the mid-level relations (phrases) differ somewhat. For instance, you can see (and hear) a small progression towards increased complexity: Within the A section, Austrian is limited only to literal repetition (a a,) while Suzanna, Early, and Ode include varied repetition within their A

sections. This varied repetition is represented as a a'. Within the B sections, Austrian and Suzanna include a literal return to material already found in A. The B section of Austrian returns to a (b a); the B section of Suzanna returns to (b a'). But the B section of Early does not include a return at all; instead it introduces new material (b c); c continues to elaborate material from the first A section. The B section of Ode is more complex—it includes three small blocks (figures) to make the b section, and returns to a still different version of a (a"). Listen again to these songs and try to hear the similarities and differences.

If you want to get into more detail, you can go on to the analysis of the mid-level structures. Or you can just skip ahead to "Last Words."

For instance, there are differences in the functional relations among the mid-level elements. Listen to Suzanna, Early, and Ode and notice that the varied repetition (a and a') creates a complementary relationship: a and a' begin exactly the same but their endings create different functions and different feelings: The first phrase, a, sounds incomplete, "left hanging," while the second phrase, a', feels more complete. Thus a leads into a' with a' resolving the tension created at the end of a. This relationship of both similarity and complementarity is called an ***antecedent-consequent phrase relationship*.**

An antecedent-consequent relationship is defined as follows: two phrases that begin the same but end differently (complementarity); the first phrase ending sounds incomplete, while the second phrase ending sounds complete (tension to resolution). Antecedent-consequent relations can be heard in many pop tunes as well as in the themes that begin and evolve in long and grand compositions. If you listen still again, you will hear that the b phrase in all four tunes functions as a contrast by introducing new material derived from material in the previous A. And in all four, b runs right on into the final phrase. The final phrase functions as a resolution to all that has gone before. To indicate this close joining of the b and a sections, we use a "+" sign to connect them.

Finally, in Austrian, Suzanna, and Ode the B section includes a return to the opening material (b + a, or b + a'), but in Early, there is no return. Instead, the B section of Early includes a new

phrase which still achieves resolution but by extending the previous material rather than returning to it. We will come back to these structural functions in the listening examples.

Last words

It's fun to make new tunes out of old blocks. Take a set and try rearranging the blocks to make a whole new tune. What happens to the structural functions of blocks? For instance, try building Early so it has a return like Austrian and Suzanna. Or try making a new tune with the blocks for "Twinkle, twinkle, little star" so that it includes a sequence.