

SoundCatcher: How to Play by Ear

By Scott Reiss and Tina Chancey

Scott Reiss, founder and co-director of Hesperus, was a pioneer on the recorder—at home in Medieval, Renaissance and Baroque styles, and possessing a command of Irish and Old-Time music and the blues. A founding member and co-director of the Folger Consort for 21 years, his articles on recorder technique, improvisation and traditional music were published in Continuo, AR and Early Music America in the U.S., and in Tibia in Germany. A 1998 Earthwatch grant funded his research on Celtic music in Ireland, forming the basis of “Tradition and Imaginary: Irish Traditional Music and the Celtic Phenomenon,” his chapter in the book Celtic Modern: Music at the Global Fringe (Martin Stokes, Philip V. Bohlman, eds.; Scarecrow Press, 2003).

His solo recordings are The Banshee’s Wail and Baroque Recorder Concerti (the former and other Hesperus CDs available in the ARS CD Club). Two live-concert recordings of his Folger Consort and Hesperus solos will be released in 2012. Before he passed away in December 2005, Reiss started this article, finished here by Chancey.

Tina Chancey is a founding member/director of Hesperus. She plays Medieval fiddles, viol, pardessus de viole and Renaissance violin, on roots music from Sephardic and blues to Irish, Old-Time and early music. A member of Toss the Feathers and Trio Sefardi, she has performed with the Folger Consort, Blackmore’s Night and QUOG. She teaches, performs, records, improvises, arranges, writes articles, produces recordings and directs SoundCatcher workshops teaching how to play by ear and improvise.

The Versatile Viol is her three-CD series featuring the viol in Scots-Irish, French Baroque, and American traditional music. Dr. Chancey received a Lifetime Achievement Award from Early Music America. Her article on “Contextual Improvisation” appears in the June 2011 Early Music America magazine. For more information, visit www.hesperus.org and www.tinachancey.net.

Reiss and Chancey inaugurated the SoundCatcher: Play by Ear workshop in 1982 to help their “paper-trained” students free themselves from the printed page. The workshop focuses on Medieval, Renaissance and traditional tunes from around the world, and targets players of any portable melody instrument. Over 28 years, they have presented 15 week-long summer workshops (partnering with Mike Seeger, John Tyson, Bruce Hutton and Nick Blanton), plus many weekend workshops and classes, teaching the method to musicians of all ages and backgrounds. The next SoundCatcher workshop is set for July 2012.



Some musicians compare the act of putting their music stands away and playing by ear to a descent into chaos, or a world without guidelines. However, none of us learned to drive, or dance or pump iron from a book—we watched, listened, experimented and remembered.

This article gives an overview of the process of learning to play tunes by ear, using SoundCatcher methods.

There are two ways of learning a tune: visual and aural, reading music notation or playing back what one hears. In our culture, these two techniques have co-existed for at least 800 years, but most people are fluent in only one mode. Therefore, when classical musicians are taught as children that reading music is a necessary complement to learning to play an instrument, we seldom get the opportunity, or make the effort, to learn to play without a page in front of us unless we have memorized the piece.

Actually, playing by ear and memorizing are different skills. A soloist can play a concerto from memory, but she certainly doesn’t play it by ear. The difference is in the way used to learn a piece. Learning a tune by ear means just that—the first encounter with the music is aural.

When we learn from notation, we see the music first, hearing it afterwards, as it comes out of an instrument. That kind of hearing is more passive, receptive. Those who learn by ear must listen differently, *more actively*. Active listening creates the guidelines, the aural map that replaces written music.

A musician who inhabits only one of the musical worlds, written or aural, is seldom comfortable in the other one. That doesn’t mean that a folk musician can’t play classical music, or vice versa. However, neither the folk guitarist who learns Bach’s *Jesu, Joy of Man’s Desiring* by ear from a recording, nor the recorder player who reads Scottish jigs in transcription, is getting the full experience of the music; he’s not approaching it as it was meant to be approached.

Many adult participants share one big reservation: the fear of making mistakes in public.

Why not just learn the tune by listening to it over and over? Why do we need a method? Not everyone has a quick enough ear to pick up a tune, no matter how many times it's played.

Picking up a tune by ear is one thing; remembering it is another. If the analytical brain is used in tandem with the ear and the kinetic memory of the fingers, the listener ends up owning the tune—and that's the goal, to make the tune yours.

Every kind of music is embedded in a tradition. We interpret most written music guided by the tradition of music education dating from the inception of the conservatory system in the mid-19th century. Conservatories teach the performer to re-create different styles of music according to the conventions of their point and time of origin, filtered through the preferences and pedagogy of the present. We call that *performance practice* or *historical performance*.

On the other hand, the tradition of aural music has no link to the past before the invention of sound recording; it is transmitted by living musicians or recordings. Its performance practice is learned at the same time as the music, through imitation, and both are transmitted as a living tradition, passed on by ear.

Is it worth the effort? Workshop participants report that, after learning to play by ear, they experience an exhilaration and sense of accomplishment that comes from being freed of the printed page, with the added benefit of having access to whole repertoires of music previously unavailable to them.

Who can do it? Any musician who knows his way around a melody instrument, knows the names of the notes

and how to hit a certain pitch upon demand, has the background needed to play by ear. (A person who has completed Stage 3 of the ARS's online *13 Stages to Help You Improve Your Playing* has these skills on recorder.)

Many adult participants share one big reservation: the fear of making mistakes in public. Mistakes usually lead to criticism or ridicule; we've been trained either to correct them quickly or hide them. In SoundCatcher, though, mistakes are used as teaching tools; playing something wrong is often the only avenue to eventually playing it right.

Two Tools for Active Listening

Your most important tool is *your ear*—an inquisitive ear is the key to active listening. Your goal is to learn to use it like a tape recorder.

In preparation, help your ears listen by embracing the tune. Move your hands in rhythm, tap your toes, sing along on “La.” Savor the notes of the tune; visualize playing along as you listen to it. Absorb the nature of that tune like a new friend. Make it yours.

Your next most important tool is a *working knowledge of music theory*: specifically, an understanding of the way that the three basic building blocks of music function together—*rhythm, melody* and *harmony*. Most of us know some theory, but will need to reexamine familiar terms to understand them better and put them to use.

Learning to play by ear in a methodical way is something like the process of drawing a picture of a map on a 14-foot ceiling. You start with tools and raw materials, and build a scaffolding; using it as support, you outline and then fill in your map. With your ear and knowledge of music theory as your tools, and the combination

of what you know and what you can hear as your raw materials, you create a scaffolding (a working understanding of how the piece is put together). Using these raw materials, you design an aural map, which takes the form of your own personal set of Mapquest directions. You train yourself to play the tune through the process of following the directions. When the directions have become familiar (the paint on the ceiling dries), the scaffolding is removed and the tune is yours to keep.

Raw Materials: What do you know about the Tune?

- What's the meter?
- What's the fundamental tone or final note?
- What's the mode?
- What's the hierarchy of pitches—what are the most important notes in the melody?

Meter is a good place to start, because it is such a defining characteristic of music, even before pitch. Take *Twinkle, Twinkle, Little Star*, for example. First, can you identify the regular beat, the physical pulse we feel with and in our bodies (the *tactus*)? Then can you sense the downbeats—selected pulses that are stronger, collecting the beats into a regular meter? Counting the downbeat and the subsequent notes before the next downbeat will give you the top number in the time signature.

After that, the concept of subdivision is useful: the subdivision of the beat is something recognized more with mind than in body. The subdivision of the beat (duple or triple) provides the rest of what is needed to identify the meter (see *Example 1*). (N.B.: *The use of written musical examples in an article about learning by ear is strange, but seems unavoidable.*)



Example 1: Some beats and subdivisions.

Subtleties, such as the difference between 2/4 and cut time, are not important at this stage. Instead, think of meter as existing in two levels: the combination of a duple or triple large beat (two or three beats in the measure) and a duple or triple subdivision (eighth-notes or triplets to each beat). (This is like *tempus* and *prolatio* in the Ars Nova theory of the 14th century.)

Next, find the **fundamental tone**. Even in modal music, this is the tone the melody circles around, frequently resting there at the end of phrases. The last note in the tune is generally the fundamental.

The **mode** is the next building block of the tune to discover. In this instance, we interpret the difference between mode and scale as a Darwinian progression from general to specific: the seven Medieval church modes (each with its own pattern of half and whole steps) became reduced to the two scales, major and minor, upon which our present **tonal** system of Western classical music is based. This developed through the advent of polyphony, the effects of the rules of counterpoint and use of *musica ficta* (chromatic alterations, for instance, to add a leading tone before a cadence).

In fact, our major and minor scales are identical to the Ionian and Aeolian modes, respectively. There are two other “majorish” modes—Lydian and Mixolydian—and another “minorish” one, Dorian. The last two modes, Phrygian and Locrian, don’t appear much in tonal music. (*For a chart of six*

The pattern of half and whole steps determine the mode, not the note on which the mode starts.

modes, see Example 2. The seventh mode, Locrian, which starts on the major scale’s leading tone, is used only rarely in jazz.)

While most tunes you learn will be either major (Ionian) or minor (Aeolian), recognizable by the raised or lowered third, an awareness of how the different modes sound will save you confusion when you hear an unexpected interval. It’s important to remember that the pattern of half and whole steps determine the mode, not the note on which the mode starts. Play the modes in *Example 2*, and listen to the characteristic whole- and half-step patterns of each. Then try to duplicate each mode starting on middle C.

Next, pay attention to the hierarchy of pitches; **what notes are most important in the tune?** This hierarchy supports your sense of key. Usually the fundamental will be the most important; it’s heard most often and serves as a focus around which patterns are built.

Another note acts as a secondary focus. Most often it’s the fifth or the third note of the scale, but in theory it could be any note. In many instances, these important notes make up a tonic chord (the fundamental tone, plus the third and fifth notes of the scale).

The interplay of these important notes forms the melodic skeleton,

fleshed out with compositional devices like variation and sequences, and decorated with non-harmonic tones. Each new section of the piece can have a different hierarchy of pitches. In the *Bransle* (*Example 3*), the opening pivot tones are A and E; after the repeat sign, there are new secondary pivots, D and B.

Listing what you know about a tune is a great way to start assembling your raw materials. Mode and meter give the tune character; making general distinctions between the more and less important notes gives the tune dimension. Specifics give a tune its unique character.

What do you hear in the tune?

- What’s the overall form: patterns of repetition and contrast?
- What’s the core musical idea: the nugget?
- How is the nugget developed, using repetition, variation, and other melodic devices?
- Can you identify the nitty gritty: little details, intervals, non-harmonic/non-chord tones?

Form is a flexible collection of nesting Tupperware containers that separate and organize the melodic elements of a tune. Most pieces have two large sections, commonly called A and B, that can be ordered in various ways—the following examples of AABB are two dance tunes, a *bransle* and an English country dance (*Examples 3 & 4*); ABBAA is a Machaut *virelai* (*Example 5*); and AABA is a folk

Example 2: Modes (with half steps marked using “^”).

9
3
A
B
Bransle AABB

15
4
A
Argeers: AABB

21
27
B

31
5
A
Douce Dame Jolie: A B B1 A (A)

39
B
2.
D.S.

47
6
A Verse
1.
Oh, Susanna: AA1 B (A1)

54
B Chorus

Examples 3-6, showing different forms.

song with alternating verse and chorus (Example 6).

A standard reel will have two repeated sections of eight bars each, for a total of 32 bars. Within those sections, however, internal repetitions of two and four bars can honeycomb the music with mini-repeats (Example 4). The good news is that, once you've learned the mini-sections and know how they're put together, you know the tune.

Forms are rather predictable. For example, the A and B sections may center on different pitches; listen for a high part and a low part. Often a first or second ending in the A section is repeated in the B section.

Can you tell when the sections start and end? Do the sections repeat exactly or does the second time have a different ending (Example 5)? Is one section longer than the other?

The *nugget* is the generative musical idea of a piece—an individual, idiosyncratic combination of melodic and rhythmic elements, also called a hook, or a *motive*. One of the best-known is the first four notes of Beethoven's fifth symphony. It's memorable, short and simple—but just wouldn't be the same if the rhythm were even or the pitches were different.

Generally the nugget starts the piece—but how long is it? You can tell by the way it's developed. In oversimplification, a piece of music is created

by taking a nugget and transforming it with musical devices such as repetition, variation, inversion, sequence (the melody's pattern played higher or lower), augmentation (slower note values), diminution (faster), ornamentation, extension or fragmentation.

In Example 3, *Bransle*, the first bar's rhythm of four eighth notes and two quarters is maintained for much of the piece, while the pitches change. Example 4, *Argeers*, seems to eschew the idea of a nugget, presenting a well-balanced development of the first four bars, with a melody based on contrast, repetition, and use of high and low points.

In Example 5, *Douce Dame*, the nugget seems to be the first two bars;



Example 7: Breakin' up Christmas

they're repeated twice and varied in a manner that seems rather conversational. In *Example 7, Breakin' up Christmas*, the A section repeats the last four eighth notes in the first bar four more times, employing an internal repeat, and then jumps to a high point at the ending.

As you listen to find the nugget, please remember that it's not important exactly what musical hook you find. The goal is to assemble your raw materials, to start building the scaffolding for your tune.

Before putting these details to use, it may be a good time to mention two particular memorized caches of information (like multiplication tables) to help you when there's a note or two you just can't catch.

One is a list of *non-harmonic (non-chord) tones*, or what a teenage student calls *tune twiddles*: groups of secondary notes decorating the important pitches of a tune, such as upper and lower neighbor tones, passing tones, appoggiaturas and changing note

groups. Neighbor tones are the notes a step above or below the note in question. Passing tones are the scale-wise notes that connect the notes in an interval larger than a second. Appoggiaturas are accented non-chord tones placed on a strong beat. Changing note groups are variously configured four-note figures winding around one pitch.

When you can't identify an exact pitch, it helps to have a library of memorized *intervals*. One of the best ways to do that is by using familiar incipits derived from whatever easy-to-remember tunes you've got in your personal memory bank: a mixture of patriotic tunes, holiday songs, TV themes, show tunes, nursery rhymes, etc.—for instance, *Born Free* (descending fourth), *We're off (to see the wizard)* (ascending fourth), *Twinkle, twinkle, little star* (ascending fifth), *Feelings* (descending fifth), the NBC chimes (ascending major sixth), *Over there* (descending major sixth), and *There's a place for us* from *West Side Story* (ascending minor seventh).

BATTERIES INCLUDED

An aural musician's best friend isn't a music stand—it's a sound recorder. The way to practice learning by ear is to keep listening; for that, a recording device (mini-disc, recordable CD) is invaluable.

While you've practiced written music for a half-hour or 45 minutes once a day, learning by ear is best if you spend 10 minutes four times a day. Listen, sing along, play along.

Most teachers will play a tune for your sound recorder at a few different speeds—so you can practice it slowly, and then play it at tempo when you're more comfortable with it. There are also software programs you can buy that slow down a tune on your computer without changing the pitch.

Review the Building Process

Your tools are sharpened and you've collected raw materials. First, you listen and refer to what you know; deduce and build a scaffolding; then you use it to create an aural map. You turn on your trusty recording device (more about that below), and start listening to the tune over and over—sing it, and play along as you can. Here's one possible process—using the elements in a slightly different order (listen to the tune three or more times for each step):

- Start with a general overview. What's the mood? Start to notice the general form. Don't take too much time for this yet; just listen.
- Figure out meter, mode, final, important pitches.
- Separate out the A and B sections, expecting them each to be eight bars each. Are they the same length? Is there a semi-cadence in the middle of the A and/or the B section? What changes, and what stays the same? Are there mini-repeats within the phrases? Are there first and second endings?
- Focus on the first phrase to figure out the nugget. If you were to create a recipe for that nugget, what would be the proportion of melody to rhythm? What's the hook? How would you describe it: melodic, dramatic, conversational, rhetorical, poetic? How is the nugget developed and transformed in the A section? Look for variation, contrast, fragmentation, repetition.
- With the nugget in mind, listen for the B section. Is it similar or different? How? If the second phrase has nothing to do with the nugget, but doesn't seem to be consciously contrasting it, maybe you should reconsider your nugget.
- Is there anything else about the tune that makes it memorable? A rest in a particular place, one perfect interval, a rhythmic repeated note that drives the ending?

Build your Scaffolding

Sing the tune with a recording device. Listen to yourself sing it. Notice when you go high and low, fast and slow.

Using what you've learned about the meter, mode, final and important pitches, figure out the first note of the tune on your instrument. Sing it to yourself and match the pitch.

Going two bars at a time—sub-phrase by sub-phrase—use the general details you know about high and low, contrast and repetition, to make an aural description of how the phrase is built. Play it as you figure out each two bars, paying attention to how each two-bar section is connected to the next one. Notice when you get to the end of an eight-bar phrase.

Do it again, listening to yourself as you do it. Notice when you've got a note here or there that doesn't match the tape. See if you can figure it out, using what you know about the mode, intervals, non-harmonic tones.

When you get to the end of the A section, see if you can play the different parts of the tune in two-bar, four-bar, six- and eight-bar fragments. Pat yourself on the back.

Do the same for the B section. Notice when melodic material from A is used, how it's treated, what happens to the nugget. What contrasts with A?

Play the B section until you forget the A. Then try to remember a piece of A, and see if you can put together the whole thing from that little piece. This is fun with fellow listeners.

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The Aural Map

The result of a carefully built scaffolding is your page of Mapquest directions. You follow the directions by playing—and *voilà*, you produce the tune. Each time you follow the directions and notice what your fingers are doing, listening to the music that comes out, you're imprinting that tune. The process is integrative—your fingers learn the patterns, your ear learns to expect the tune to sound a certain way: it becomes familiar.

After a few days of using this process, you won't need to think about your aural map; it will be absorbed in your experience of the tune. It's still important to remember how you first described the nugget to yourself—if you forget the tune, this will be the key that unlocks the piece for you again.

Learning a Tune by Ear is not a Straight Line

Players using this method may go to bed humming a tune, but then wake up having forgotten it; find themselves humming the last phrase on the way to work, then whistling the beginning at lunch, etc. Sometimes, if you remember your scaffolding and aural map, you can reconstruct the rest of the tune around the fragment you remember; sometimes not. Don't judge yourself when this happens; it's all part of the process.

After a few days of concentration, of following your Mapquest map and listening as you play, tunes will stay with you. Particularly when learning many tunes at the same time, it may be useful to have a little reminder, like writing down the letter names of the first four notes (GABG). Try not to write down the whole tune, though, or you'll be in danger of reading it.

Reading about a process always makes it sound much more complicated than doing it; to learn interactively, attend a workshop where you can immerse yourself with other curious people. Go to Irish and Old-Time

music sessions; often there will be a "slow jam" where tunes are taught by ear, but at a more comfortable pace. Or mobilize your home consort: ask players to learn a simple Arbeau or Susato dance tune by ear, to bring in and teach to the group.

Most important, respect your own way of learning: some people need to move to music to learn it, some visualize patterns, some depend on rhythm to spark the tune. Use the skills you know best—perhaps ones you use(d) in your job—and adapt them to this process. Above all, have fun. It is, after all, music.

A current Hesperus project is to compile CDs of Reiss playing recorder solos and features. The first CD, from Folger Consort concerts of 1976-98, was funded by private donations; it is currently available for \$20, with sales benefitting the Folger Consort. The second project is a two-CD set of Reiss's solos and features in Hesperus concerts (Medieval, Renaissance, Baroque, Irish and crossover). To contribute to the two-CD project or to purchase the Folger CD, send checks to Hesperus: 3706 North 17th St., Arlington, VA 22207. Chancey will send a free CD for every \$50 donation to the 501(c)(3), plus a tax acknowledgement letter. For more information, see www.hesperus.org.



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