

Syllabus

Music Cognition: Discovering the Musical Mind Tu-Th: 3:30-5:00

Instructor: Prof. Jeanne Bamberger

Texts:

Bamberger, J. *Developing Musical Intuitions* [DMI]

Available from Amazon (used)

(Download the software for this text at: www.tuneblocks.com)

Bamberger, J. *Discovering the Musical Mind* [DMM]

Pre-publication excerpts on bSpace

Readings: Relevant materials from the above texts along with other readings are posted in Resources.

Piaget, J. *The Psychology of Intelligence*, Chapter 5 (excerpts)

Vygotsky, L. (1986) *Thought and Language* Chapter 5 (excerpts)

Hasty, C. (1997) *Meter as Rhythm* (pp 1-13)

Cooper, G. and Meyer, L. B (1960), *The rhythmic structure of music*, Chap. 1
Chicago: University of Chicago Press.

Johnson & Larson (2003) "Something in the way she moves"—
Metaphors of musical motion

Krumhansl, C: Rhythm and Pitch in Music Cognition

Bailey, J. Music Structure and Human Movement

"When we go about the spontaneous, intuitive performance of the actions of everyday life, we show ourselves to be knowledgeable in a special way. Often we cannot say what it is that we know. When we try to describe it we find ourselves at a loss, or we produce descriptions that are obviously inappropriate. Our knowing is ordinarily tacit, implicit in our patterns of action and in our feel for the stuff with which we are dealing. It seems right to say that our knowledge is in our action."

Don Schön: *The Reflective Practitioner*

"The secret of what anything means to us depends on how we've connected it to all the other things we know. That's why it's almost always wrong to seek the "real meaning" of anything. A thing with just one meaning has scarcely any meaning at all.

Rich meaning-networks, however, give you many different ways to go: if you can't solve a problem one way, you can try another. True, too many indiscriminate connections will turn your mind to mush. But well-connected meaning structures let you turn ideas around in your mind, to consider alternatives and envision things from many perspectives until you find one that works. And that's what we mean by thinking!"

Marvin Minsky: *Society of Mind*

The goal of this class is practical: to interrogate, **make explicit**, and thus to develop the powerful musical intuitions that are at work as you make sense of the music all around you. What is the nature of the knowledge that is guiding these intuitions? How does this knowledge develop in ordinary and extraordinary ways?

This is not a survey course; rather it includes selected readings in the development of music cognition with a particular focus on learning and musical development as they are related to cognitive development more generally.

To carry out this agenda, you will be involved in four closely interrelated activities and the questions they will raise. The process is modeled (as much as possible) on the kind of learning that occurs quite naturally in informal settings through observation, questioning, practicing and experimenting, probing for and trying to account for how and why an object, a system, or a living organism behaves as it does.

1. Experiments in musical composition:

Small composition-like projects aided by the specially designed computer music environment, Impromptu, will function as an active workplace. You will explore, experiment, question, and reflect on how and what you know how to do as you make, the musical coherence that you seem simply to find. In short, you will be your most active "subject."

2. Alternative approaches to musical analysis:

Differing approaches to analysis of complex musical works will be considered and actively tested.

- a. What are musical objects of attention? How can you tell?
- b. What features and relations shape the boundaries of musical entities? How are these influenced by context?
- c. How can we account for why people hear "the same" piece differently?
- d. How does analysis influence "hearings?"
- e. Is there such a thing as an "appropriate hearing" of a given composition?

3. Musical cognition and development:

What does music cognition research tell us -- for instance:

- a. How does musical intuition/knowledge develop and change?
- b. Does musical development relate to development in other fields?
- c. Is there a "musical intelligence?"

- d. What musical parameters are given preference at differing stages of musical development and in differing styles of music?
- e. How do the above concerns interact with/influence musical?

4. **Representation:**

Notations, graphics, computer languages and procedural descriptions:

- a. What kinds of entities and relations does each capture?
- b. How does each reveal or conceal, what we hear -- even what we believe to exist as musical objects?
- c. Why do descriptions (notations, analytic categories) often obscure **what** is intuitively heard and **how** we intuitively perform?
- d. What are the differences between "units of perception" and "units of description?"

The semester culminates in a final project. Students may choose one of three types, a combination thereof, or propose an original design:

- An experimental research project (cognition, perception, meaning-making)
- A musical analysis project
- A performance and analysis of a composition

The Final Project

The Final Project will bring together all the other activities in the course. The project should be chosen early on in the semester with its evolution an essential part of the work. For instance:

If you choose an experimental research project, your questions and your methodology should be developed by mid-term leaving time to carry out the project during the second part of the semester.

If you choose to analyze and compare recorded performances of a piece, the piece should be chosen early in the semester, so that you can trace the development of questions that arise.

For students who choose to study and perform a piece, the piece you choose (in consultation with the instructor) should be one that you find interesting and challenging, and one that is sufficiently complex so as to require thoughtful analysis. Keeping a log of your progress in learning your piece, you will note the problems and puzzles you confront as you go along, how they are resolved, new insights that occur along the way, and how your "hearing" of the piece changes. This log **together with an analysis of the piece** will be the bases for your final paper.

musical objects?

15%

Log Keeping

Throughout the semester you will be reminded to keep a running log of your work. Its purpose is to help you reflect on your work --for instance, to interrogate your decision-making in composing or recomposing, to pay attention to surprises in listening, to question and try to account for your responses. Looking for patterns and generalizations as derived from observing the results of your composition and analysis work is particularly important when going on to the listening examples. For instance, paying attention to commonly recurring organizing patterns, you will begin to notice that larger and more complex works are elaborations of some of the same structural aspects you have found even in the simple tunes you have worked with. We will call these the “simples” of common period music—and argue that complexity is a function of these shared, underlying structures. Your logs will form the basis for your bi- weekly papers.

The Final Project

The semester culminates in a final project. Students may choose one of three types, a combination thereof, or propose an original design:

- An experimental research project (cognition, perception, meaning-making)
- A music analysis project (including comparing recorded performances)
- An analysis and performance of a composition

If you choose an experimental research project, your questions and your methodology should be developed by mid-term leaving time to carry out the project during the second part of the semester. Describing the experiment and the results will make up your final paper.

If you choose to analyze and compare recorded performances of a piece, the piece should be chosen early in the semester, so that you can trace the development of questions that arise. These, together with the comparison of performances (each considered as a particular “hearing” of the work) will be critical parts of your final paper.

For students who choose to study, analyze, and perform a piece, the piece you choose (in consultation with the instructor) should be one that you find interesting and challenging, and one that is sufficiently complex as to require thoughtful analysis. Keeping a log of your progress in learning your piece, you will note the problems and puzzles you confront as you go along, how they are resolved, new insights that occur along the way, and how your "hearing" of the piece changes. This log together with an emergent analysis of the piece will be the bases for your final paper.

The Final Project and its evolution (an essential part of the work) will bring together all the other activities in the course. The final project, including a paper of an appropriate length, will be the primary basis for your final grade. Work-in-progress will be discussed in class.

Final Project and Paper
35%

MUSIC MAJORS

Music Majors will be expected to bring more extensive music theory and performance skills to the preparation of their work. Further, they will be expected to attend 4 extra class sessions in connection with their final project.

Papers 1 & 2: Two extended composition projects focusing particularly on the comparative influence of the computer environment in interrogations of their own process and their evolving understandings of musical coherence. 10 + 10 %

Paper 3: Music majors will discuss how cognitive developmental theories relate to their own musical development. This will be an oral presentation.
15%

Paper 4: A paper proposing alternative analyses of a composition that the student has
performed or can learn to perform with an emphasis on how analysis influences performance.
15%

Paper 5: A paper comparing music notations with music performance and listening. 10 %

Final Project and paper:

Music majors will select a final project that develops further and integrates their work on the previous projects. A preliminary sketch of the final project will be expected by the 6th week of the class. Work on the development of these final projects will be discussed in 4 additional group sessions
REQUIRED FOR ALL MUSIC MAJORS.

Final Project and paper = 40 %